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JUST ABOUT TIME HE TOOK A WALK!

A Comparison of Present Salaries of City Superintendents With Those of Pre-War Time

Margaret L. McAdoo

A study in salaries of superintendents of schools in 58 cities of the United States shows that in 1913 the maximum salary was \$10,000 a year, with four superintendents receiving that amount; now the maximum is \$12,000 a year, with four superintendents receiving it; one superintendent receives \$10,500, and nine \$10,000 a year. The total appropriation for the year 1913 for the payment of these officials was \$308,100, and for the year 1921, \$439,960, or a total increase for the period of seven years of \$122,860. This increase within itself is modest, only an average of \$2,155.43 for each superintendent, but upon examining the figures in detail the findings are surprising.

For instance, in three cities, Oakland, Akron, and Youngstown the salaries have been more than doubled, the increase being from \$4,000 to \$10,000 in the first named city, and \$4,000 to \$9,000 in the two last named; in two other cities, Albany and Wilmington, the salaries have been exactly doubled, there being a promotion from \$3,000 to \$6,000 in each instance. The superintendents of some of the smaller cities, it will also be seen, are paid the higher rates, as Gary, Indiana, which falls within the \$10,000 a year class.

This generosity may be partly due to growth in population of the cities in question. Gary, for instance, in 1910, had a population of only 16,802, while in 1920, she laid claim to 55,378 souls; Akron, Ohio, in 1910 had a population of 69,067, and in 1920, 208,435—both cities having more than trebled their population; and Youngstown, Ohio, has also grown, having almost doubled the number of her inhabitants for the same period of time.

But, coming from plums to pickles, it will be seen that in six of the larger cities, Boston, Cincinnati, Louisville, San Francisco, St. Louis, and St. Paul, the superintendents have received no promotion since 1913. Boston and Cincinnati, however, were at that time paying their superintendents the generous salaries of \$10,000 a year each; but San Francisco, a city of 506,676 inhabitants, has not increased the salary of her superintendent from the comparatively small amount of \$4,000 a year; nor have Louisville and St. Paul, also cities having a population of a little over 200,000, from the salary of \$5,000 which each paid its superintendent in 1913.

The following is a list of cities paying these varieties in salaries, the number of which, it happens to be, is the same as the muchly quoted "57":

Statement showing salaries of city superintendents of schools in sixty of the larger cities for the years 1921 and 1913.

Cities	1921	1913
Birmingham, Ala.	\$ 7,500	\$ 5,000
Los Angeles, Calif.	8,000	6,000
Oakland, Calif.	10,000	4,000
San Francisco, Calif.	4,000	4,000
Denver, Colo.	8,000	6,000
Bridgeport, Conn.	6,000	4,100
New Haven, Conn.	5,000	4,500
Wilmington, Del.	6,000	3,000
Atlanta, Ga.	5,000	3,300
Chicago, Ill.	12,000	10,000
Indianapolis, Ind.	8,000	5,500
Des Moines, Iowa.	7,500	4,000
New Orleans, La.	8,000	5,000
Kansas City, Kans.	5,000	3,500
Baltimore, Md.	8,000	5,000
Boston, Mass.	10,000	10,000

Cities	1921	1913
Cambridge, Mass.	6,000	5,000
Lowell, Mass.	5,000	3,300
New Bedford, Mass.	5,500	4,000
Springfield, Mass.	5,800	5,000
Worcester, Mass.	6,000	4,250
Detroit, Mich.	9,000	8,000
Grand Rapids, Mich.	5,500	4,000
Minneapolis, Minn.	8,000	5,500
St. Paul, Minn.	5,000	5,000
St. Louis, Mo.	8,000	8,000
Omaha, Nebr.	10,000	5,400
Jersey City, N. J.	10,500	6,500
Newark, N. J.	10,000	7,000
Paterson, N. J.	6,000	3,600
Trenton, N. J.	7,000	3,600
Albany, N. Y.	6,000	3,000
Buffalo, N. Y.	10,000	7,500
New York City.	12,000	10,000
Rochester, N. Y.	8,000	5,000
Syracuse, N. Y.	6,000	4,000
Columbus, Ohio.	7,500	4,000
Cleveland, Ohio.	10,000	6,000
Dayton, Ohio.	6,120	5,000
Toledo, Ohio.	6,240	5,000
Youngstown, Ohio.	9,000	4,000
Philadelphia, Pa.	12,000	9,000
Pittsburgh, Pa.	12,000	9,000
Reading, Pa.	4,700	4,000
Nashville, Tenn.	4,800	3,600
Providence, R. I.	6,000	5,000
Houston, Tex.	6,000	4,000
San Antonio, Tex.	6,000	3,600
Salt Lake City, Utah.	6,000	4,800
Norfolk, Va.	5,000	3,250
Richmond, Va.	6,500	4,000
Seattle, Wash.	10,000	7,500
Spokane, Wash.	5,800	4,500
Milwaukee, Wis.	9,000	6,000
Washington, D. C.	6,000	.....
Gary, Ind.	10,000	6,000
Louisville, Ky.	5,000	5,000
Akron, Ohio.	9,000	4,000
Cincinnati, Ohio.	10,000	10,000

WOMEN IN SCHOOL ADMINISTRATION. Bertha Y. Hebb.

The advancement of women to responsible positions is nowhere more evident than in the teaching profession. It is not merely that 84 per cent of the teachers in American schools are women, but that more and more women are called into administrative and advisory capacities in the schools.

The highest educational offices, that of state superintendent of schools, in nine states are held by women: Arizona, Colorado, Idaho, Kansas, Montana, North Dakota, Texas, Washington and Wyoming; the office of city superintendent of schools in many of the larger cities is held by women, among them being that of Los Angeles, Calif., a city of upward of 300,000 population, at a salary of \$8,000 a year; and 21 cities, having a population of 100,000 inhabitants or over, have women representatives on their school boards.

In many cities the position of chief medical inspector, or school health officer, is held by women. Among these cities are: Altoona, Pa.; Decatur, Ill.; Dubuque, Iowa; East Orange, N. J.; Kalamazoo, Mich.; Lincoln, Nebr.; Little Rock, Ark.; Providence, R. I.; Sacramento, Cal.; Saginaw, Mich.; Tampa, Fla.; Topeka and Wichita, Kans.

The advancement of women to important educational positions is probably best seen in the remarkable increase in the number of

county superintendents. In 1900 there were 276 women county superintendents in the three times that number—771. In some States United States, and in 1920-21 there are almost this feature of woman's educational activity becomes a monopoly. In Montana, for instance, where there are 51 counties, every county superintendent is a woman; and in Wyoming, with 22 counties, there are no male county superintendents.

The list of States with women county superintendents is worth looking into in detail. In addition to the entire monopoly in this respect by the States of Montana and Wyoming, Iowa, Kansas, Nebraska, New York, and South Dakota show particularly notable increases.

The following is a list of the county superintendents by States. Those in New York State are known as "district superintendents."

	1900	1920-21
Alabama	(a)	1
Arizona	(a)	10
California	17	30
Colorado	30	56
Idaho	14	33
Illinois	8	10
Iowa	13	58
Kansas	26	67
Kentucky	16	26
Michigan	8	24
Minnesota	14	43
Missouri	10	25
Montana	26	51
Nebraska	10	61
New Mexico	(a)	14
New York	12	42
North Carolina	(a)	1
North Dakota	10	25
Oklahoma	7	26
Oregon	(a)	10
South Dakota	18	53
Tennessee	9	4
Texas	(a)	31
Utah	(a)	1
Washington	8	19
Wisconsin	9	26
Wyoming	11	22
	276	771

(a) Data not available for year 1900.

"WE TEACHERS DON'T PARTICIPATE."

Four teachers were exchanging vacation experiences, after one of the first fall days of school.

"I studied pedagogy in a big university," said an enthusiastic beginner. "Of course I know something about teaching, with the benefit of a college education, but what I studied this summer was curricula and course planning for high schools."

The three experienced teachers looked at each other and laughed shortly.

"I took a frivolous pleasure trip," said one. "I didn't even do any sight-seeing."

"I simply vegetated at home," said another, frankly yawning.

"I went to work and made some money for myself," said the third. And to the beginner, who seemed disappointed by their lack of ideals and devotion to their profession, "We teachers don't participate in any way in the school administration. If we are fitted to teach the subjects dealt out to us, why should we fit ourselves to do more? Why just this summer a committee of school board members has been planning some new courses, and retaining or altering some old courses, the very sort of thing you were specializing in."

The beginner nodded, in the new light shed on her, but she was not yet ready to surrender her enthusiasm.

"Perhaps school boards and school superintendents are beginning to think about having the teachers participate in the school administration. So I shall go right on fitting myself for that participation."

WASTE IN EDUCATION

H. R. Bonner, Chief of Statistical Division, U. S. Bureau of Education

It behooves us to pause occasionally to locate and measure the waste in public education, to point out some of the factors that contribute to it, and to suggest methods by which the situation may be improved. I shall not attempt to analyze the problem for each individual state but only to deal with the United States as a whole and with certain groups of cities. I shall refrain so far as possible from injecting personal opinion into the argument, and base my deductions upon the evidence supplied by carefully analyzed statistics. I shall not digress to enumerate the loss due to the fact that our present school term is only seven-tenths as long as it would be if the schools were maintained for eleven months in the year. No business firm would think of allowing an investment of two billions of dollars in buildings and equipment to be idle for 205 days in the year. This appalling waste in the administration of our public school system has only to be mentioned to be condemned, and needs no further discussion. I shall not discuss the waste brought about by inadequate equipment, antiquated school buildings, obsolete textbooks, poor teaching, improperly supervised study, and the aimlessness with which many pupils pursue their school work. I shall confine my discussion to the more general aspects of the problem incident to irregular attendance, repetition of school work, and withdrawal from school.

The statistical report of the Commissioner of Education for 1918 shows that the average person who completed his education in that year had attended school for only 1,076 days. This average includes attendance at all types of schools—elementary, secondary and higher institutions. As the average length of the school term is about 160 days, or eight months, the average person now completing his education has attended school for 6.7 years of 160 days each. On the basis of a nine-months' term this average reduces to a little less than six years of schooling for the average person. Assuming that the average child completes nine-tenths of a grade a year, it follows that the average person completes 5.4 grades during his life time. There is conclusive evidence, therefore, that we are a "nation of sixth graders." This is not an accomplishment of which we should be proud, especially in view of the fact that those who completed their schooling prior to 1918 did not accomplish so much. If this "average" person had attended school continuously for 365 days each year, he would have attended school for a little less than three years. As this "average" person is expected to live 57 years after he becomes old enough to enter school, i. e., five years of age, it is seen that he goes to school for one-nineteenth of his life time. The number receiving a collegiate education is so small that one would have to meet 61 adults over 23 years of age or 116 persons of all ages to find a single college graduate. Although most states provide twelve years of public elementary and secondary schooling yet the average person takes advantage of only about one-half of the opportunity afforded him for securing an education. Can the state afford to make such a lavish provision for education, spending almost a billion dollars a year for it, and yet permit its future citizens to be so prodigal? The situation challenges analysis.

Let us ascertain wherein the waste occurs and what remedies may be applied to accomplish better results. Educational statistics show that the average child enrolled in school attends for

only three-fourths of the school term provided. Twenty-five per cent of the term is actually wasted by irregular attendance for which the States paid over 173 millions of dollars in 1918. The average annual cost of education for each child attending daily is about \$49, whereas if all the children enrolled attended each day the corresponding average would be only \$36. Regular attendance, therefore, would decrease the per capita cost about \$13 per child annually without changing the total amount spent. Indiana, Oregon, and Ohio waste the least—only about ten per cent of the term; while Arizona, Oklahoma, Alabama, and Kentucky waste the most—not far from forty per cent of the term. The loss due to irregular attendance in the most wasteful states is about four times as great as it is in the better states where the children attend fairly regularly. Only one remedy seems applicable for this phase of the problem—a better compulsory attendance law, rigidly enforced. What some states have done, others can do.

Assuming that children may be expected to be absent from school ten per cent of the time, we must still face the fact that fifteen per cent of the school term in the United States is inexcusably wasted. Just how long it will take to eliminate this prodigality under normal procedure may be ascertained with a fair degree of certainty without employing mathematical exactitude. In 1870 the average child wasted 41 per cent of the short term of 132 days of schooling provided, while in 1918 he wasted by irregular attendance only 25 per cent of the term. In about 48 years, absence from school has been gradually reduced from 41 to 25 per cent, or to a net reduction of sixteen per cent. If it took the Nation 48 years to learn to save sixteen per cent of its expenditures for schools, it will take at least 45 years to reduce it to the reasonable expectation of ten per cent. It can be prophesied, therefore, that this millennium will come in 1963. Few of us will live to see it.

Some may contend that it does not cost the United States 173 millions of dollars annually to provide schooling for the children who daily stay out of school. It must be remembered that school buildings have been provided for the total enrollment. A sufficient corps of teachers has been employed to give instruction to all who are enrolled. Extra work is entailed in making up the work of those who are absent. The work of the others is necessarily delayed. The fuel and janitorial costs are not minimized by absence. The cost of supervision does not decrease. In fact, the major expenditures for our schools are determined very largely by the total number of children who choose to enter school and not so much by the average daily attendance. It is highly probable that, if only three-fourths of the children in the United States should attend regularly, the schools could be maintained at about three-fourths of their present cost. Our problem, however, is not to reduce the cost but to utilize it to its maximum purchasing power. From the standpoint of the pupils it is an indisputable fact that the children lose one-fourth of the school term. To them it is a dead loss. The fact that over five millions of children are out of school each day should cause school administrators to view this problem with alarm. Taxpayers will feel justified in complaining about tax rates when they learn that 23 cents out of every dollar spent on public education is as good as wasted. In short, this waste is so great that if it were fully

utilized the average person who completed his education in 1918 would have had 1,434 days of schooling instead of 1,076 days, thereby increasing the time that he has attended school from six years to almost eight years of 180 days each, and enabling him to reach the eighth grade instead of the sixth.

The waste due to irregular attendance in the rural schools is greater than it is in the city schools. The average city school term is 182 days and the children waste over 21 per cent of it. In the shorter rural school term of 144 days, the children waste almost 29 per cent of it.

Bad legislation is largely responsible for this great waste of money. It seems unpardonable for legislators to authorize the expenditure of public money and then not make provision for expending it wisely. They may perhaps be pardoned for authorizing the maintenance of kindergartens without requiring such little children to attend regularly, even if they do attend only 54 days out of 100, but their action can scarcely be condoned when they permit six-year-olds to enter school without making provision for their regular attendance. Altogether 47 States permit children to attend school at the age of six, or even younger. Only two states defer the age of entrance to 7 years. Not a single state requires regularity of attendance of pupils during the first year that they are permitted to attend. This lack of coordination invites irregularity in school attendance. In only 19 states are children required to attend school at the age of 7. In 29 states the corresponding age is 8, while one state does not require attendance until children become 9 years of age. It would be just as illogical to grant automobile licenses without at the same time requiring the driver to go to the right. When cities find that considerable loss ensues without traffic regulations it immediately enacts laws to protect life and to minimize the loss. Why should not a state deal as wisely with its children? Would it not be the part of wisdom to require all children to attend school regularly after they once enter? Such a provision would eliminate much waste especially in the lower grades. It is indeed surprising that this important provision has been so long overlooked by legislatures.

From a study of the distribution of pupils by grades in 23 states in 1918 it was found that there were more than twice as many pupils in the first grade as actually entered school for the first time. In the whole nation about two million pupils are repeating the work of the first grade. About one-tenth of all the children enrolled in the public schools are repeating the work of the first grade. The repeaters in the first grade throughout the United States outnumber our total high school enrollment. The cost of a repeater in this grade, however, is only a little more than one-third as much as the cost for a student in high school.

It is difficult, if not impossible, to make a precise analysis of this situation. No other grade contains so large a percentage of "repeaters." Undoubtedly some of these children are in this grade a second or third time because of their inability to master the technique of our written language. The first grade may be the most difficult of all when the mass of absolutely new material to be mastered is considered. The most plausible explanation, however, of this high proportion of "repeaters" lies in the fact that children attend school very irregularly during the first year. Under essentially similar

conditions children in the kindergarten waste 46 per cent of the school term. It is highly probable that first grade children waste almost as high a proportion of the school term. No compulsory attendance laws operate to keep them in school. Their presence is optional. Considerable disagreement exists among parents and even among educators as to the proper age for entering school. When a child goes to school for the first time he comes into contact with many other children and has unusual opportunities to contract diseases. When such young children are obliged to stay out of school for a few weeks on account of illness parents do not consider it urgent that they should return to school even when they have fully recovered. To delay school work for another year is not often regarded as a matter of serious concern. All of these factors taken collectively largely explain the waste of school expenditures in the first grade.

In 80 cities enrolling over a million children in 1908 there were 66 children repeating the work of the first grade for every one hundred beginners. In 1918, there were only 53 "repeaters" for each one hundred beginners in these cities. It is seen, therefore, that cities are gradually solving this problem since they now have only four-fifths as high a proportion of "repeaters" in the first grade as they had ten years ago. For the whole United States, however, the proportion of "repeaters" in this grade has been reduced only four per cent since 1911. Undoubtedly a wisely administered compulsory attendance law applying to all children who desire to enroll in school and who have become 6 years of age would reduce the "over-weight" of the first grade.

The cost of the "repeater" in grades above the first, in my judgment, has been somewhat overestimated. For 80 city school systems in 1918, it is found that 5.1 per cent of all pupils are repeating the work of the first grade. Assuming that none drop out before they have reached the sixth grade, the proportion of new "repeaters" added to the list each year from the second to the sixth grades cannot exceed 3.2 per cent. It is seen, therefore, that not over 8.3 per cent of all the children enrolled in city schools are repeating the work of the first six grades. A higher percentage than this may be over-age for their grade but they are not necessarily repeating the work of the grade in which they are enrolled. As 70.5 per cent of the pupils are enrolled in these six grades, it is not likely that more than twelve per cent of all the pupils enrolled in city schools are repeating the work pursued. It is highly probable that the correct percentage does not exceed ten, since in the advanced grades no compulsory attendance law operates to keep "repeaters" in school. These percentages harmonize rather closely with results obtained by higher statistical methods applied to age-grade tables which show that the average child in a city school completes approximately nine-tenths of a grade a year, thereby resulting in a net loss of only ten per cent. From the foregoing computations it follows that about one-half of the repetition in all the grades occurs in the first. For the urban and rural schools combined it is estimated that the number of repeaters in all grades is not far from twenty per cent. It is unfortunate, however, that we often speak of over-age children in the rural schools as "repeaters" or as being retarded. They are probably just as capable as children in city schools. They often lack the opportunity of advancing as rapidly. They travel by local train and not by express. They are belated rather than retarded or repeating. However, the waste due to repetition is not nec-

essarily additional to that caused by irregular attendance, since much repetition is chargeable to irregularity in attendance. It is illogical, therefore, to infer that children waste one-fourth of the school term by irregular attendance and also an additional 20 per cent because of repetition.

Let us analyze the other end of the age-grade scale to find out what happens. Of one thousand children entering the first grade in the United States there will still be one thousand when they reach the fifth grade. Only 830 will register in the sixth grade; 710, in the seventh; and 634 in the eighth. Of the original one thousand only 342 will enter high school; 246 will reach the second year; 181, the third year; 150, the fourth year, and 139 will continue long enough to complete a four-year high school course. Parenthetically it might be added that only 72 of the original one thousand will enter college; 52 will become sophomores; 39, juniors; 30, seniors, and 23 will graduate. These small

A RIFT.

Frances Wright Turner.

Dear empty schoolhouse, fancy-led,
That sheltered many a childish head;
Where often a scene of other days
Lingers when'er our fancy strays
Across the lintel of thy door,
Across thy crooked, sunbeamed floor.

Once, grew wild roses by thy sill—
I wonder if they blossom still?

There where you nestle in deep, tall grass,
Almost hidden from all who pass,
You seem so empty, so alone
With all of your merry children flown;
Just an empty nest where the sun shines
through,
Drenched in the tears of the morning dew;
Silent when sunlight, or snows, or rains
Drift alike on your window panes,
Or cover once more, your worn old sill—
Deserted? Ah yes, but we love you still.

survival percentages in the higher grades indicate in no unmistakable manner the inability of our schools to hold the young men and women for advanced work. In city schools higher survival percentages obtain. Practically none will drop out before the sixth grade. The seventh grade will have 91 per cent of the number that began, and the eighth grade 75 per cent. Three-fourths of the beginners in city schools will reach the eighth grade. Sixty per cent of the beginners will enter high school; 38 per cent will enroll in the second year; 25 per cent in the third, and twenty per cent in the fourth year. In other words one-fifth of city school children will go as far as the fourth year of high school, as compared with fifteen per cent for the urban and rural schools combined. It is highly probable that only about one child in eight in the rural schools is now completing a four-year high school course.

In view of the foregoing facts, it may seem paradoxical, nevertheless it is true, that a smaller percentage of children in the rural schools drop out during the ages 13 to 16, than is found in city schools. The census of 1910 shows that of the children 13 years of age only 89 per cent are in school, while for city schools in 1918 the corresponding percentage in school is only 85. At 14 years of age the percentages are reduced to 81 for the nation, and 65 for cities. At 15 they become 68 and 41 respectively, while at 16 they have been reduced to 51 and 24 respectively. The corresponding percentages for the rural schools only would show still greater differences for these ages. These percentages indicate that there is much

greater tendency for the city child than for the rural child to drop out of school. This situation is to be expected in view of the fact that greater opportunity for securing employment exists in the city than in the country. The rural school term is often so short that it takes a child a long time to complete even an elementary course. The average number of days attended in rural schools of sixteen states does not exceed 90 per year. To complete even a standard elementary course in such schools, the rural child would have to attend school for at least 16 years. In such cases the pupil would be 22 years of age before he becomes eligible to enter high school. In fourteen states, urban and rural combined, it takes the average child until he is 20 years of age to complete eight grades of elementary school work. In some states this impossibility is partially offset by the fact that the completion of seven grades is considered a laudable achievement. Further, there is less opprobrium attached to overagedness in the rural districts than in municipalities. Pupils in the country school often continue to repeat or take by installments the work of the upper elementary grades for several years, since many do not have access to a high school. Not so in the city. The children either withdraw from school or go into high school. School mortality at these ages in city schools constitutes a more vital problem than that of repetition. Pupils will not endure the censure incident to over-agedness. It has been found by the U. S. Bureau of Education that over seven times as great a proportion of over-age pupils in city schools drop out of school between the fifth grade and the eighth as is found among children who are making satisfactory progress in these grades. This occurs despite the fact that a few children who have hitherto made satisfactory progress are added to the over-age group in these grades and do not actually withdraw. This is the "critical" period in city school attendance. It would seem, therefore, that lack of success in school work very largely accounts for school mortality during this "critical" period.

How have school administrators dealt with this problem? Many of them have adhered to the old academic course of study, regardless of the demand for an enriched curriculum. The educational banquet should be prepared for the sub-normal, and the precocious; the halt and the maimed; the deaf and the blind; the moronic and the feeble-minded; the dyspeptic and the neurotic. It must contain a suitable diet for all, so that none who have partaken of the feast will suffer from indigestion. Children often leave the unpalatable feast prepared by the public school and purchase a more nutritious one in a private commercial or trade school where the caloric value of the diet is clearly indicated on the menu. Many of the vocational courses now offered are so "ballasted" with the wrecks of obsolete languages, the spoils of profitless wars, and other vestigial structures that many children prefer to sail on a vessel loaded only with useful cargo. In organizing our programs of study, we often fail to take account of the aptitudes and inclinations of the child, thereby virtually driving him into academic ostracism. The youth of 14 or 15 years of age should find a type of public school work which is suited to his particular needs and which will contribute to his efficiency as a citizen. Unless such vocational work is offered to those who desire to drop out of school at these ages the state does not seem justifiable in compelling them to continue in the academic work for which they are not fitted by nature. It is to be hoped that the junior high schools will be

keenly awake to this situation. When the schools offer a type of work suited to the needs of these children the State can no longer countenance withdrawal from school at these "critical ages."

What have state legislatures done in the matter? In eight states labor permits are granted under certain conditions to children who have reached the age of 12. In only four states are labor permits not granted to children under 15 years of age. In all other states the age of exit is 14. With these low minimums it may be expected that large percentages of children, especially those who are not making satisfactory progress, will leave school at the ages of 13, 14 and 15. Such laws invite withdrawal.

It is to be deplored that only one-third of the children in the United States survive to the first year of high school. Are legislatures justified in compelling attendance throughout the high school course? It is doubtful, unless the curriculum is so rich and varied that the children can find therein a type of work which will contribute to their vocational and social needs. Few children relish Euclidean geometry or will long endure the torture of classical languages, especially when they find that they are no wiser after having read Cicero or Virgil, than they were after they had campaigned with Caesar. Few will survive the trip around the pyramids of Egypt, through the Forum of the acropolis, or among the catacombs of Rome, without suffering from mental paralysis. Each student should choose his own journey. The state should provide the escort. *Vocational efficiency* should be the password for withdrawal from our public school system and not some chronological criterion. Little legislation has yet been enacted on this logical basis. It is a joint problem for school administrators and legislators to solve. It would not be wise, in my opinion, to extend the compulsory attendance age very far upward unless educational emancipation is granted to the pupil and an enriched curriculum provided.

Irregularity in attendance is often due to a lack of vigilance in enforcing the existing laws. Only five states have, so far, made any serious attempt to secure a uniform enforcement of its compulsory attendance laws in every nook and corner of the state under the supervision of a state attendance officer chosen primarily for this purpose. Each of the other states leaves the matter entirely to the discretion of the local truant officer to work out his own salvation or to shirk his responsibility. Often the matter is left to the option of the child or its parents, as seven states do not have even local attendance officers in all the school districts.

Frequently a school census is not taken and attendance officers have only incidental means of ascertaining who should be in school. A continual census or registration of additions to and withdrawals from the school district is probably the most efficient method of keeping a school census. No army officer would neglect keeping a record of all new enlistments and of those discharged. He needs to know who are in camp on any day in the year so that proper assignments of work may be made. "Absence without leave" is immediately detected. Why should a school superintendent be less informed? So far only three states have not seen fit to provide for a school census and most of the others take the census once a year. It is just as impossible to enforce an attendance law consistently without a census or registration list as it is to prosecute a criminal when he is still unknown and at large. Some superintendents have made no use of the school census except as a means of distributing school moneys. A few, I am told, do not know why it exists.

Attendance laws now operate with greater or less stringency in practically every school district in the nation. In only three States in 1918 did local option attendance laws exist, i. e., laws which required adoption or ratification by the local unit of school administration before they become effective therein. The result of such optional ratification means that many counties in these States do not have attendance laws. Regularity of attendance is not required in those counties which have not taken favorable action on the local option law.

It seems strange indeed that attendance laws do not in many States cover the entire school term. Only 28 states require attendance for the full school term provided. Two states require attendance for three-fourths of the term; two states for two-thirds of the term; and one state for seven-tenths of the term. The other states do even worse by requiring attendance for a specified number of days, regardless of the length of the school term. Two states require attendance for 140 days; three states, for 120 days; one state, for 100 days; seven states, for 80 days; two states for 68 days, and one state for only 40 days. If a child attended school each year in this last State only for the minimum term required he would be 60 years of age before he would complete a standard-high-school course. It is thus seen that many States provide a longer school term than they think the children ought to attend. In partial explanation of this paradoxical situation it may be said that compulsory attendance laws are like trees—they exhibit "rings of growth," each succeeding ring being larger than the preceding. The initial law may require attendance for only 60 or 80 days. The next legislation on the question may increase this minimum to 100 or 120 days. The next revision of the law may require attendance for the full school term. It may take several years for a law to pass through this metamorphosis from infancy to maturity. After experimenting with the problem for 30 years a state almost invariably incorporates the full-term proviso. Of course some have not experimented so long and have not yet attained this climax of perfection. They do not profit by

precepts but painfully follow the path cut by the pioneers.

A further laxity in certain attendance laws appears in the number of days that pupils are permitted to be absent before they have violated the law. In nine states the law contains no provision regulating the matter. In 28 states an inexcusable absence of one day constitutes an offense. In all the other States at least three days absence is permitted before legal prosecution can begin. There is no valid reason why children should be permitted to stay out of school for a single day unless such absence is unavoidable.

Let us scrutinize the educational standards of the States to ascertain the minimum educational attainment which they expect of each pupil who secures a labor permit and leaves school. Altogether sixteen States have no educational criterion. Of the remaining States, fourteen require that children be able to read and write; four require the completion of the fourth grade; seven, the fifth grade; three, the sixth grade, and five the completion of all the elementary grades. It does not seem unreasonable that all children should be required to complete the elementary grades, if proper courses are offered to over-age and non-academic pupils, yet only five states provide for this meager minimum. With the rapid multiplication of public high schools—one each day for 28 years—the time is probably near at hand when all children who are not idiots, imbeciles, or feeble-minded will be obliged to complete a four-year high school course. Although at present only 150 children out of a thousand continue their education to the last year of high school, the public will not long be willing to support its secondary schools for the benefit of the few who are inclined to take advantage of them,—not that they will be discontinued but that they must be better patronized.

In concluding these observations certain outstanding features need to be reiterated and re-emphasized and a reasonable prophecy proclaimed. As a nation we will not long continue to tolerate illiteracy. It will soon be impossi-

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CHICAGO SCHOOL BOYS CONTROL TRAFFIC.

The Nettelhorst School is in a congested district and accidents have been frequent. Upper class boys have been assigned as traffic "cops" after receiving instruction from an officer.



Personnel Management of the Teaching Staff

Assistant Prof. Frederic B. Knight, University of Iowa—and
Raymond H. Franzen, Research Director, Des Moines, Iowa



There are few capable superintendents of schools who do not welcome as members of their lay board of control business men of large interests and first class ability. Is it not on the whole true that the average superintendent of schools can "get his ideas over" to a big business man better, easier, and with less friction than he can handle a "small potatoes," second-class man to whom being a school board member is the nearest approach to fame?

One has confidence in the man who does things, who meets large issues daily, who is accustomed to look the facts in the face and say "yes" or "no" without too much hemming and hawing about it. And there is a fascination in watching the mental processes of the business executive. He thinks according to the same rules that all the rest of us think by, yet there is often a surety to his thinking that reminds one of the sturdiness and the skill we desire for ourselves. And big business has much to teach the school administrator if he will only learn. In fact I suspect if half the superintendents who read these words would, the next time they are in a city attending an educational convention, steal off from the convention and visit, with eyes peeled, the largest industry in that city they would not fail to gather many suggestions for their own executive work.

There is one thing that we can learn from industrial management and it is a thing we very much need to learn at the present time. Let me get at it a little indirectly. Some decades ago there grew up in business a very vigorous movement called "scientific management." Efficiency experts were on every hand and the problems of production and selling were to be solved over-night by standardizing everything, charting everything, testing everything. The whole industrial fabric was going to be mechanized. And so business fell to work charting, testing, standardizing. Even workers were numbered. They were assigned just what they could do best, their tasks were simplified and so on.

But somehow or other the attained results were short of the expected ones. We see now what the trouble was. Certain of the efficiency ideas were based on the assumption that the worker is a machine, that the human factors are susceptible to the kind of standardizing that was advised. The fact is that human nature is *not* susceptible to that kind of management and industry as a whole has learned this lesson; namely, that certain kinds of de-humanized technique in handling men do not work, however good they may look on paper. Much of the technique of that efficiency movement has been retained and fitted into the steady operation of industry, but the spirit of the management has changed.

Personnel Management in Industry.

It is well known that the problems of labor management have always been the weak point of American industry. And to meet the problems of human nature in industry our business

men have at last turned to what seems to be the best solution of this tangle of problems—the establishment of a Personnel Department. This department, coordinate with the production department and the financial and selling departments, is often headed by a vice-president. And strange as it might seem, schoolmen are among the best personnel managers that we have.

Now what can we learn from business? Among other things, that statistical work, testing by itself, more or less mechanical means of operating a school are very likely to involve a neglect of vital human factors because they are more or less subtle. Should this be the case in the current tendencies of school administration, then it takes no bold mind to prophecy that in due time we shall wake up as industry has waked up to find that we have not accomplished what we intended to accomplish.

These mechanizing tendencies are present in current education and we wish to apply the idea of personnel management to public school administration. While many factors present in industry are not present in school enterprises there are sufficient common factors to make the experience of industry worth at least a hasty glance from the educational executive.

We shall be interested here only in the personnel management idea as it applies to the teaching staff.

The personnel manager of one of our largest industries which every one knows by name and product has his duties outlined as follows:

Duties of Personnel Manager.

- A. To be responsible for the selection of all employees.
- B. To provide, in cooperation with the various department heads, adequate means for the training of new employees and the improvement of all on the pay roll.
- C. To control the placement of workers and to supervise transfers as they appear to be advantageous from time to time.
- D. To provide those conditions of work and those factors of work which are best calculated to allow employees to work at their best.
- E. To supervise the whole problem of "effort" and "motivation" throughout the plant. This includes the methods of pay, the promotion schemes and other provisions for motivation.

It goes without saying that the wording of these duties has been changed to suit the purposes of exposition but the spirit of them has been retained.

Let us see what this idea has for the superintendent of schools. Nothing new perhaps except this: a *new emphasis on the management of the teaching staff*. To make it bluntly concrete, the writers hazard this guess. Within a decade we shall find in the larger school systems a high administrative officer, whose duties will be to the school organization what the personnel manager's duties are to an industrial plant. We further guess that within five years

we shall find in the more progressive colleges of education, courses on the personnel management of the teaching staff which will be as specific in their purpose as current courses on school surveys now are.

For a long time to come most superintendents must be their own personnel managers. They will do very much the same things that they are doing now, *only they will do them very much better and will give much more time and thought to their duties as managers of teachers.*

We return to industry for another pertinent bit of experience.

How Industry Employs.

In past times, if one was looking for a job and wandered into a factory or industrial plant, he would have found no central office to go to nor any one person in the factory to interview. Quite likely he could have wandered from department to department, asking the several foremen if there was any work that day. If there was work in a department the foreman of the department would have talked to him, given him "the once-over," and hired him or not as he saw fit.

During the last fifty years as industries grew in size, as the duties of the foreman became more exacting, and as the percentage of error of this method of employment became more and more costly, with increases in labor wages, the method of hiring described by the phrase "every foreman for himself" was gradually abandoned. In its place grew up a central employment office. This was in many ways a gain. But it was not at first recognized that employing as employing was a fine art. Failure to realize this is largely the explanation for the type of employment manager that was at first selected. He was very often but a worn out employee or perhaps a crippled one who had gained the confidence of the management by faithful service. And very often his method of employing was a fearful and wonderful conglomeration of prejudices, fantasies, and sometimes, to be sure, sound common sense. One of the old time employment managers made the startling and curious discovery that men with blue eyes never made good. His basis of selection was very largely a matter of looking a man straight in the eyes. Another figured that the Lord would provide, and made an unbreakable rule of turning down every one on some days and being very generous on others. "I have found it best to hire every third candidate," is the sage reflection of the erstwhile employment manager of a large steel foundry in Pittsburgh.

Human Aspects of Business Enterprise.

Now American executive genius and her daring and courageous captains of industry have won many notable victories over brute nature. Our dams, our railways, our ability to penetrate a virgin forest and have finished lumber across the continent with astounding rapidity, our ability to kill and dress cattle by the hundreds of tons, and on along down the line are well known and fully wondered at by both native and visitor. But the management, the genuine

scientific management of our labor supply has always been the weakness of American business and industry. A comparatively few years ago it became very evident that the better handling of labor was imperative. To meet this need a separate executive department has developed, that of personnel management. The development of personnel management in industry need not concern us here. What we wish to bring out again is the fact that better business today is putting the best brains it has on the problems which center around the distinctly human aspects of the enterprise.

In the total executive work of a modern industry the personnel manager finds, as you can very readily see, a strategic position and a place of ever-increasing importance and command. We see then that industry has found it wise to stress the human side because mechanical methods have failed to produce. Likewise we see industry no longer content with hit-and-miss methods of employing because of the waste. What is true of industry in this connection is in our opinion equally true and even more essential for education. Let us impress this assertion by a few blunt statements which your good judgment may lead you to accept, to modify, or to deny as the case may be.

It is more important for a superintendent of schools really to know his teachers than to know the course of study.

A teachers' meeting is more important than a board meeting.

A superintendent may be a doctor of philosophy in education and know more than any other superintendent in the state about test standards, school architecture, school law, methods of study, even methods of teaching, but if he is not successful as a personnel manager he is a failure, though of course that failure may be for a time unnoticed.

The Superintendent's Big Job.

A superintendent may be forgiven almost all else if he really knows how to select teachers and if, after they are selected, he does know how to make them more skillful because of his supervision. If teachers both wisely selected and kept up to efficient work are placed on the job, they can do best. If after wise placement the superintendent knows what the factors and conditions of efficient teaching are and sees to it that they are present and, lastly, if he works into his general policies adequate and workable schemes for the motivation of teachers, if this is done, then his major work is accomplished. We suggest that if a superintendent does these things almost any shortcoming can be overlooked.

Putting the matter in another way—the most important function of the superintendent is the personnel management of the teaching staff. The time is not far distant when the enlightened school board will not be very much put out if their superintendent is a little short on his knowledge of the classics, or has not read with care every textbook that could be used in a new course given in high school, or finds it wise to call in an expert to tell him about the lighting or methods of accounting or the place of formal grammar in the curriculum. But the school board will not tolerate the haphazard selection of teachers. It will not stand for a superintendent whose only training of teachers is the providing of an institute or the offering of a few platitudes when he visits classes or wastes the time of everyone concerned in giving notices in a teachers' meeting rather than using the teachers' meeting for genuine professional instruction. We predict that the next big strike in the field of school administration lies not in



L. N. HINES,
President-Elect, Indiana State Normal School,
Terre Haute, Indiana.

The resignation of Dr. W. W. Parsons of the Indiana State Normal School, was recently accepted by the Board of Trustees, and Mr. L. N. Hines, state superintendent of public instruction for Indiana, was chosen as his successor.

Mr. Hines will assume his new office on October 1st next. Mr. Hines was for many years superintendent of schools at Crawfordville, Indiana, and two years ago was elected state superintendent. He has been a frequent speaker at national and local educational conventions.

tests or even further tinkering with the course of study or in a few more thousand correlations between this and that. We do not deprecate these things. Their importance is admitted but as in industry so in education the executives are weakest on their human engineering. The personal factors of school enterprises, the direction of teachers as individual, actual human beings; the personal management of the teaching staff is, we are sure, the one major duty of the superintendent that needs attention most. In the general field of the management of teachers lie our next problems and also, we hope, our next victories and advances.

We wish to suggest a few of the problems in the personnel management of teaching staffs.

Problems of Selection.

First. Can we not improve our methods of selecting teachers? Several of our friends who are superintendents of schools have told us in confidence that they don't know just how it is, but they do possess a good eye for teachers. They can tell after a relatively short conference with a candidate just how good or poor she is. That is, there are some people who think they do have the gift of prophecy, as it were. We do not deny the possibility, but if there is any superintendent who thinks he possesses a special gift of insight into people's character, he is either deluding himself or is a very rare bird. The uncritical attitude one can take toward his own ability may be shown by the following incident: It was in the army. Mr. A was a sergeant at the time. Mr. B was the captain of the outfit. Mr. B, the captain, was a regular-army man, had been a sergeant all his life until the world war brought him a lucky promotion, which he interpreted as remarkably good judgment on the part of the war department.

A rather complex task was assigned which would take about one hundred men. A few were to do one thing, a few were to do another thing, a few more to do a still different thing. These several tasks, though relatively simple, were quite different in nature. It was suggested by the sergeant that the tasks be assigned to the men on a basis of their relative fitness for the work. Thus where much figuring was involved, men would be put to that task who

not only said they could figure but who in simple tests showed that they could. The more stolid men would be put on kitchen police, since they would be less restive in that irksome task, and so on. In reply to this suggestion the captain turned to the sergeant a look of hurt pride and infinite pity at the sergeant's ignorance of his ability and said, "Why, Sergeant, don't you know that I can tell what a man can do by just looking at him." As both of the soldiers were gentlemen the conversation was dropped then and there. It is poor form to question the wisdom or truthfulness of a captain but the sergeant still harbors a sneaking suspicion that the captain was deluding himself. And after the captain had fooled around for a while he found it more and more convenient to let his subordinates attend to the "details" of assigning tasks.

Time Required for Right Selections.

For your procedure of selection of teachers, we offer these suggestions. In the selection of teachers a superintendent will do well to *extend his time* of getting acquainted with likely candidates. It is not good sense to be over fussy. A superintendent is always pressed for time, but it is good sense to see a candidate several times and if possible in several situations. The more important the vacancy you are filling the more necessary it obviously is to find out all you can about the candidates and to see them under different circumstances.

Many superintendents in their selection of teachers make the same mistake that many psychologists do in the construction of mental tests. The most important factor of the test seems to be the time element, the shortness of it, or the speed with which it can be taken. Professor Hanus of Harvard used to tell the embryonic superintendents in his class in school administration to go with superintendents on their daily round of duties to see for themselves just what the job was. On two occasions we accompanied superintendents as they went to interview teachers. One of the superintendents, who was good enough to let us sit in on interviews, is a man whose name is used to conjure with in public education. The other is really a "nobody." The difference in type of interview was amazing. The one asked questions requiring thought to answer, discussed many topics other than those of the classroom, spent much time in drawing out the candidate. He then would make an engagement to see the candidate again if he was interested in him. The "nobody" could turn off an interview as the man at the circus can guess your weight and call for another in a minute or two. He could hire or lose interest in a very few minutes indeed. His questions were to our minds not particularly significant or penetrating. His per cent of error in selection was probably no better, if as good, as those of the bookmaker as he lays bets at the races.

It is also good sense to have as many people pass on the candidates as you can. It is very good sense to have the principal as well as yourself see a candidate, to have other teachers see them, to have members of the school board see them, and thus to obtain a composite judgment. The final nomination, which should be automatically confirmed by the board, should be absolutely in the hands of the superintendent. But the superintendent deprives himself of much aid when he neglects to have a candidate looked over by those in whom he has confidence. Many mistakes and probably many more half-successful choices would be avoided if more people were in on the selection.

(Concluded in August)



School Revenues: Sources, Distribution, Limitations

Reuben W. Jones, Secretary Board of Education,
Seattle, Washington



The schools of the United States require greatly increased financial support if the present standard is maintained and the scope of the work is to advance and expand at anything approaching the pace attained during the past two decades. The great changes in the economical and industrial situation of this country, now intensified to an extreme degree by the conditions brought on by the world war, have revealed to us fundamental problems and an attitude towards school revenues as well as all other revenues, that calls for serious consideration. A veritable wash-back of the war is upon us; assessed valuations as the basis of revenue not only lagging behind but apparently disastrously vanishing; property owners in a quagmire of despair, and at the same time, costs of all municipal and school service increasing, hence demanding more revenue and forcing unbearably high tax rates.

From rating by millions we will be forced to think and talk in billions.

Where is the money coming from? How much, if any, increased taxation can property owners bear? Are there other sources that can be tapped? Are there not better systems for securing and distributing public revenues—a broader, more generous, fairer and more equitable basis? Can we, as an Association, contribute anything towards a revision of taxation laws, and in a practical way secure a diversified system, divide the burden and yet increase the revenue?

With the great variance in laws and systems adopted by the several states, with the endless municipal problems that add complex difficulties, with the many angles of difference between states, between cities and between counties, as well as the always prevailing differences between rural and urban conditions, and with the peculiar and special questions of a period of readjustment and reconstruction, our revenue problems so overshadow all other school questions as to create a situation which may be termed a crisis; vastly bigger, broader and more comprehensive in scope than that usually termed; "an educational crisis," so inseparably blended with all local, state and national finances that it can justly be designated "a financial crisis."

In this discussion we are not called upon to defend or justify or explain the advanced costs and expanding service of the schools. That is a phase of another big question. We are confronted with a condition; with stubborn facts; and school business officials, representing as we do, the business administration of the schools of the leading cities of the land, can attempt no higher service or find greater justification for coming together than to become a force and power for taxation reform, and in securing ample and equitable support for the schools. It

will surely be worth while if we can but point out the way, even in a general direction, that will lead school administrators towards the most promising path; uniting our efforts in a co-operative way with others to secure more dependable sources of revenues.

It is not necessary that we review the alarming totals of the aggregate taxes for all purposes, imposed upon our people, but we are compelled to realize that it is a maximum load, and we must admit that educational demands form generally no small part of the burden; but it is the combined load, the total of the tax imposed, that is crushing the burden bearer.

Again, it is needless at this time to review the development and progress of the methods of maintenance of free public schools, interesting though the record may be, for our problem is to correct a system annually growing more and more ineffective and inequitable, and to meet entirely new and insistent conditions.

The one outstanding fact is that a general property tax has become an utterly inadequate basis for a just and reasonable system of taxation. Tax commissioners and experts, financiers and all authorities on taxation have agreed in pronouncing it hopeless as a source for adequate general revenues. Lack of uniformity, or failure to affect property equally, the absolute failure to reach many classes of property, irresistible temptations to dishonesty, the heavier proportion of tax upon the smaller properties and poorer classes, are but a few of the defects of the system. We should, therefore, take our place in the ranks of those striving to devise practical methods by which the increased public revenue that is so imperative may be raised with the greatest degree of equity, economy and certainty.

Sources of Revenues.

At the outset we should keep in mind existing conditions—our present sources of revenue, increasingly inadequate though they be, our dependence on the proceeds of general taxes—interlocked with other municipal, local and state taxes—and realize that new sources cannot be speedily secured and made available. Reform is a long, slow, up-hill climb. Not in one year, and probably only after several attempts, can legislation be secured and a new system firmly established. Meanwhile, the schools must be maintained and our present sources of funds must somehow, somehow, carry the burden. Our immediate task then is, if possible, to improve, extend and make more definite our present basis, as well as secure greater efficiency along administrative lines.

The main source for general revenue will doubtless continue to be, as it is now, a tax on land. While a just complaint is universally made that real estate bears an undue proportion of general taxes, for the present, in many states, there is no prospect of early relief; hence,

efforts should be so directed that assessments may be made more equable and satisfactory. Definite, fair, systematic methods of appraisal should be established and strictly adhered to; carefully made field notes and maps, schedules of revaluations, and a positive, business-like procedure, instead of the too often off-hand estimates and guesswork, bringing on occasions charges of favoritism. The appraisal of the holdings of wealth, the higher class of properties too often is comparatively low; while the holdings of the poor man are always listed, and generally at the highest rating. This condition seems to be growing more and more evident, unfair and intolerable.

In 1916, a check of 8,772 actual sales in thirty-six counties of a middle western state, showed the following:

Value	Ratio of Assessed to True Valuation
1,834 sales under \$500.....	47.49 %
1,591 sales \$ 500 to \$ 1,000..	46.44 %
2,698 sales \$ 1,000 to \$ 2,500..	42.89 %
1,505 sales \$ 2,500 to \$ 5,000..	38.44 %
734 sales \$ 5,000 to \$ 10,000..	37.08 %
361 sales \$10,000 to \$ 25,000..	33.99 %
47 sales \$25,000 to \$ 50,000..	31.83 %
12 sales \$50,000 to \$100,000..	26.81 %

In the above figures, 1,834 owners of parcels of land and lots worth less than \$500, were assessed at 47.49 per cent of the true value, while twelve owners of real estate, worth from \$50,000 to \$100,000, were assessed at 26.81 per cent of full value. The rate of tax paid, therefore, by the person with less than \$500 worth of property, was nearly double that paid by those whose real estate was worth from \$50,000 to \$100,000.

An endless number of lists showing similar inequalities could be submitted.

If we include personal property, we would find revealed glaring under-assessments, evasions, omissions and dishonesty, made possible by the many intangible forms of such property. A New York report in referring to this form of taxation has stated that, "It puts a premium on perjury and a penalty on integrity." While the wealth of the country in the form of personal property exceeds that in real estate, and is increasing, it is paying a ridiculously small proportion of the whole tax; and for the time being our first duty is to make all taxable holdings contribute in a more equable and just manner. We should become thoroughly familiar with assessment and taxation methods, aiding and co-operating with tax associations, leagues and civic bodies, in backing up the assessors, strengthening and broadening the standard of assessment; urge more complete and thorough work; demand most approved methods; up-to-date schedules of revaluations; and with publicity of the system employed, revealing conditions of tax-dodging, arouse a public sentiment

Address before National Association of School Business Officials, Detroit, May 8, 1921.

that will demand and secure a fairer, higher, aggregate assessment as a foundation for increased revenue.

Other Sources.

The greater problem, however, awaits solution—to definitely determine what broader sources of revenue are available. An outstanding evil in present systems is that we tax different classes of property and persons without regard to the taxpaying ability or the degree of benefit from results of public expenditures.

Without enumerating all the suggested forms of new or added taxation, or placing any limitation on any form of special, direct, or indirect, regulatory, inheritance, or other tax now in force in several states, all or a part of which may be retained and made to conform to proposed new general laws, we might outline briefly three general classifications that would embrace the essential principles of a concrete system:

(a) All tangible property, by whomsoever owned, should be taxed where it is located, because it receives benefits and protection.

(b) Every person having taxable ability should pay some form of direct tax to the government under which he lives and from which he receives personal benefits, protection and service.

(c) Business carried on for profit in any locality should be taxed for the benefits and protection it receives.

In the first—*tangible property*—the chief classification will continue as now, to be real estate. Whether tangible personal property, the commonly listed schedules, should be included, and if included should receive separate classification, is one of many disputed questions. What the several states now list should be adhered to until the establishment of the second form—the personal tax—measured by taxing ability.

Personal tax may consist primarily of a *personal income tax*, the income of an individual being an element in determining his taxing ability. Probably more advocates of an income tax can be found at present than any other new form for general increase of revenue, they declaring it to be the best method of enforcing the personal obligation of the citizen to support the government—local, state and national. However, if made too general a target, too many divisions and subdivisions of government, too many special demands, the schools among others, and all laying claim to the income tax as the panacea for taxation troubles, it cannot stand the strain. Already the federal income tax is meeting an attack that will doubtless delay and throw doubt upon efforts for state adoption of this form of taxation. The federal income tax will doubtless be modified and simplified, but hardly repealed. Possibly a sales tax may be substituted in part, or included in federal taxation. Rightly adjusted, with low minimums, with moderate but fair, progressive steps in the schedule, reasonable and not irritable in its requirements, the income tax must be included in any advanced model system of taxation, for state as well as national support.

In relation to personal taxes, the poll tax is not to be overlooked or hurriedly discarded. While admittedly unequal and inadequate, it may, in present emergencies, be retained wherever now in force, to supplement other taxes, or, in connection with special obligations, such as soldiers' bonuses, etc., be even reinstated and temporarily increased.

With the securing of a workable, personal income tax, the great bugaboo of intangible property may be thrown in the discard. The unit of measurement, the profit of intangible and all forms of wealth, will become a far more equable



REUBEN W. JONES,
Seattle, Wash.

element than the property tax alone in locating taxing ability. New York, Massachusetts and Wisconsin, and possibly other states, have state income tax laws and can show definite results that may be studied with interest and profit.

A Business Tax.

Besides the general property tax and the state income tax, many states have some form of *tax on business*. This may be in the way of licenses, or on gross receipts, or on net revenues of the business, or a sales tax.

Many will doubtless be ready with a query. "Why a tax on business? If property is taxed and personal income is taxed, why a further tax on enterprise; a penalty on thrift; a damper on industry?"

Business is responsible for much of the cost of government, especially in cities, in the way of courts, police and the fire departments. The more business, the greater will be certain fundamental costs of government, and no general tax on property is a fair measure of the duty devolving upon business as such, to support the state. A tax upon the business unit will usually yield a very much larger revenue than the same rate on an individual owner of business.

Any business tax should be under a simple, uniform system, that would do away with the many vexatious, complex forms now found in the various states, a tax on the net income of business, or possibly a sales tax, being the forms experts are advocating.

May we not reasonably expect that in a combination of taxes as thus briefly outlined, the state would reach reasonable sources of revenue, with far better results than by main dependence upon any one tax?

There will always be a certain amount of irregularity in the operation of any tax, and under one tax there will be more or less concentration at certain points, while with three separate taxes, some of them will offset or compensate for others. The suggested plan will permit every state to tax as it desires, all tangible property. It can provide that all persons shall be taxed fairly and fully at their place of abode, for the personal benefit they derive from government, and further indicates that a state may tax business, especially corporations and many non-resident concerns, in an effective way. It will broaden the field, extend the sources, and at the same time lessen the double taxation and other prevailing inequalities.

In presenting this brief outline, no new, original, remarkable or sensational remedy for our troubles is offered. Tax commissions, tax experts, tax students and tax associations are

continuously delving into the subject, and have, by frequent conferences and varied and long experiences, arrived at fairly definite conclusions, and the suggestions herein presented are but the merest mention of a few of the general conclusions and recommendations found in these reports and in suggested legislation submitted from time to time by these specialists, who are worthy and capable leaders in taxation reform. It is certain we can do no better work. Our limited experiences and investigations but confirm the results they have arrived at, and we believe they are pointing out the way.

Our duty and opportunity is to go as far as we are able, to assist them; to add our efforts in a constructive, effective way to the nationwide movement, and not singly or locally dream some startling or sensational plan by which we can hit the capitalist, or the *other fellow*, or some remote luxury or indulgence in which we do not share, and presto! out pours a river of revenue to supply our very special needs.

The scope of this discussion would not permit, nor is this the occasion to attempt any technical treatment of taxation intricacies, nor is it necessary to submit the usual extended arguments and explanations that pertain to the newer forms of taxation referred to herein. The expert authorities mentioned, in January of this year completed and published in a bulletin of the National Tax Association, drafts of a personal income tax act, and also of a business income tax act, which may be adapted, by the necessary change of the precise language used, to the needs of any state. Supplemented by the taxation of tangible property, on a broad, improved basis, these measures will avoid points of conflict and offer a most complete proposed tax system for immediate and future consideration.

Luxury Taxes.

The above forms may be augmented by an inheritance tax, regulatory taxes, and taxes on spenders as well as savers. Expenditures as well as incomes may indicate ability to pay taxes; and any of these special lines can be considered without affecting the three classifications of taxes herein discussed; in fact, some phases could be included in a business income tax.

One has asked, "Is saving a sin?" and then adds: "The world is carried forward by the people who consume less than they create.**** There is extreme solicitude that the money spender shall have his pocketbook replenished, but who says anything about the diminished purchasing power of income?"

Clearly, expenditures in various forms should be considered in measures providing for the support of the government.

Startling comparisons of colossal expenditures for luxuries as compared with education, as published by Dr. P. P. Claxton, former U. S. Commissioner of Education, indicate how almost negligible our educational costs appear to be. What a wide field for a small tax on the spenders is offered. Can the federal government take a heavier toll along this line, and is it within the province of the states, through some form of business, income or sales tax, to secure additional funds from this source?

Dr. Claxton's totals of federal taxes for 1920, for the states of New York, Massachusetts and Delaware, in remarkable contrast with their costs of education, reveal how enormous the collections of federal taxes have become, that for New York alone totaling \$1,418,332,651.

The condition of business and industries generally, however, indicates that this is a very inopportune time to impose heavier burdens. Relatively, the hardships and tribulations of the numerically greater majority of present

COMPARISONS OF ASSESSED VALUATIONS AND TAX LEVIES IN THE LARGER CITIES OF THE UNITED STATES.

	Area (Sq. Miles)	Population	Assessed Valuation	Basis of Assessment Percentage	Tax Rate Per \$1,000 All Purposes	Full Valuation	Tax Rate on Full Valuation
New York	314	6,141,445	\$8,922,638,742	100	\$24.80	\$8,922,638,742	\$24.80
Philadelphia	129	1,823,779	1,941,467,934	90	28.50	2,157,186,590	25.65
Detroit	79	1,040,000	1,699,149,580	80	25.59	2,123,936,970	20.47
Cleveland	56	796,000	1,725,000,000	100	22.80	1,725,000,000	22.80
St. Louis	63	772,897	790,999,080	100	25.50	790,999,080	25.50
Boston	47	748,060	1,572,596,625	100	24.10	1,572,596,625	24.10
Baltimore	91	733,826	1,817,383,272	100	29.70	1,817,383,272	29.70
Pittsburgh	45	625,000	814,750,550	100	39.80	814,750,550	39.80
Los Angeles	365	575,673	833,855,335	50	40.10	1,667,710,670	20.05
San Francisco	46	508,410	819,392,153	100	31.80	819,392,153	31.80
Buffalo	42	507,000	700,940,870	100	29.24	700,940,870	29.24
Milwaukee	26	457,147	675,611,540	100	29.18	675,611,540	29.18
Washington, D. C.	108	438,000	429,713,428	66	19.00	651,080,900	12.54
Newark	23	405,000	499,851,847	100	37.50	499,851,847	37.50
New Orleans	196	387,000	484,798,292	90	23.50	538,664,760	21.15
Minneapolis	54	384,000	265,069,000	40	62.60	662,672,500	25.04
Kansas City	59	324,410	354,018,200	70	33.40	505,740,288	23.38
Seattle	94	315,652	245,832,956	50	73.55	491,665,912	36.78
Jersey City	19	297,864	369,847,278	100	30.97	369,847,278	30.97

The units of taxation, or the various divisions geographically that are to contribute to the support of the schools, through what channels, what agencies, and on what basis, are other important elements in determining the extent of available revenues.

Distribution of Funds.

The percentage of the receipts of school revenues from state, county or local sources, varies with every state of the Union. The biennial survey and statistics of school systems by the U. S. Bureau of Education shows this remarkable difference in the percentage ratings in the several states.

It is a natural tendency to appeal for and expect aid from some higher source, somewhat remote from local and personal obligations whenever the load becomes burdensome, and perhaps we are too ready to clamor for help from the larger unit, but in this case the tendency is justifiable, not only because of the urgent need but because of the fact that education is a national and state as well as a local obligation.

When we consider the national participation, we must bear in mind the unusual, abnormal burden of the federal government at this time, and that it will continue to demand attention and absorb available revenues, making new and added contributions towards what have been previously regarded as state and local activities possible, only as definite, positive and liberal increases in federal revenue are assured. To ask or expect any specific federal tax on some form of income or business, or any fixed percentage of any special tax to be devoted directly to educational work as supplemental to state and local funds, is hardly reasonable. Indirect taxes imposed by the federal government may be regarded as an approved form of taxation, but the complaint registered regarding the effect of these burdens on certain sections of the country and on different classes of our people, weighing heavily on new enterprises as well as old, etc., combine to make requests for greater federal aid at the time, inexpedient.

A recent news item informs us of an organization of manufacturers and merchants in favor of the Ralston-Nolan bill to reduce the federal tax burden on business enterprises about 25 per cent. They propose a radical change of federal tax on land that would produce one billion dollars annually. While it appears to affect only land holdings in excess of \$10,000, it is a dubious outlook if our national government resorts to any form of taxation on land. The power and influence of the 25,000 members claimed for the organization, and others, will make the granting of direct federal aid to the schools, a somewhat remote possibility.

States, again, have been called upon to assume an increasing amount of governmental responsibilities; and a generous support of the educational system is one of the greatest tasks which states are more and more generally assuming. Higher education, in a special manner, has become the province of the state, and state aid to the common schools in many sections of the Union, is now a creditable part of the total of funds supplied. In many states conditions are ripe for an effort to be made for greater state contribution, it being considered one of the promising fields for increased school revenue. However, much depends on such aid becoming available on the success of the state in securing general revenues by the newer methods proposed, rather than by a state-wide general property tax. It may be but fair to assume that no extended state aid for the common schools can be expected until the state has definitely developed the new and somewhat indirect sources of revenue.

State Aid.

The special obligation of the state to establish and maintain all the institutions for the unfortunate, helpless, defective and delinquent, both children and adults, is very pressing, and the corrective and penal institutions are imperative burdens. The entire support of the State University, and often special colleges, as agriculture, mining, etc., and usually a number of normal schools or teachers' colleges, demand of the state at large, heavy appropriations. Probably no more effective service can be extended by the state to the public schools, than by still further improving the facilities for teachers' training, offering inducements to prospective teachers by special courses, and even some sort of a bonus, subsidy or loan, for students who are deserving and meet certain requirements. This may be regarded as the paramount duty of the state, rather than supplying an unduly high percentage of the cost of conducting local schools.

Probably, with all the aid that can be provided, by far the greatest and most dependable resource must continue to be direct local taxation. The local spirit, incentive and interest in the subject of education, the feeling of responsibility and pride, and independence and liberality, is what has given our schools their present high standing. This local effort should now be supplemented in a generous manner, but it will probably always remain the main, reliable, constant support of the common schools.

A special elaboration of the subject of these three partners—the nation, the state and the community—will not be encroached upon further here, but mention will be made of another subdivision—the county—which usually

taxpayers would reveal comparisons as startling in their contrasts as the array of luxuries and indulgences.

Constitutional limitations as to taxation methods in certain states may require amendment, and different adjustments will be required to meet varying conditions. These amendments and adjustments will be the first step to take in many states, and a general movement towards tax legislation is now under way in many of these states. Special tax code commissions or legislative committees are considering the subject, and it is desirable that there be more cooperation and greater uniformity on tax matters between states than in the past.

Some common rule, or national leadership, for encouraging uniform legislation is desirable. All the states operating under similar tax laws will lessen very materially both the double taxation and evasions on account of interstate business. It will also remove the cause of fear of discrimination between states by capital seeking investment, development of industries, etc., which is now halting legislation, especially on the part of the western states. However, such uniformity of state laws is possibly only a hope for an ideal future.

While there are centers of wealth, and possibly a few states where wealth has accumulated so as to provide an ample assessment roll and a moderate tax levy, on the whole we have hit the top, and a general protest arises at any attempt to increase tax rates. A table of our leading cities, showing area, population and tax rate comparisons, appears on this page.

Housing and Boarding Problems.

One very perplexing phase of the financial problems of our schools is the housing question. It is a very acute situation in most of our cities, and calls for what hitherto has seemed an absolutely unattainable capital investment. Costs of construction reached prohibitive figures during and immediately following the war, and the securing of building material and labor during that period was an undertaking both unpatriotic and impossible. To resume the building program since has proven a most discouraging task, even though there has recently come about a great change, and school authorities are proceeding for 1921 with more hope and confidence.

During such periods of stress when all available resources are needed to conduct and maintain school operations as they are, the pay-as-you-go policy for new construction can be adopted in only occasional, fortunate cases. Most cities must fall back on bond issues. Here again, with a shifting bond market and high rates of interest, uncertainties must be confronted.

How far to go in borrowing funds at a high rate, and in building at exorbitant costs, is a question which is perplexing school authorities.

Present indications are that bonds can be marketed, and with a descending scale of costs, building construction cannot much longer be delayed. If we cannot pay as we go, serial bonds, with annual installments maturing, thus distributing the pay burden, can be issued. Possibly short time, or optional bonds might be issued, so as to take advantage of lower rates which can be anticipated. A policy of preference of investment of state permanent school funds in local school bonds should be established.

To build at such a time may require us to be less ambitious, to build less expensive buildings, seeking every practical means of providing classroom accommodations, setting aside many desirable auxiliary conveniences. One-story buildings; multiple uses; and other expedients must be resorted to until conditions are better adjusted.

is the next unit above the local district or city, and to meet rural conditions is being frequently adopted and generally urged as the standard unit for local school taxation.

Expressing only a general probability, the federal government when it extends greater aid to the schools, will be likely to follow certain specific lines of special class assistance, as through the Smith-Hughes act.

With the state, a very great variance in plans of apportionment of funds to the local districts, cities or counties, is to be found. The basis of assessed valuation, of school population, census children, actual or average daily attendance, aggregate days attendance, accredited days attendance, or bonuses for certain activities, and the basis of the number of teachers—one or more, or a combination of two, three, or more of these, is used as a basis for distribution of funds to the local unit.

The opportunity is offered for equalizing, to some extent, conditions between counties, cities, districts, union schools or consolidated districts, and the constant problem of the rural school, the small town or manufacturing city with many pupils and low assessed valuation, is one that a liberal plan of apportionment can often correct and give encouragement to efforts for higher standards.

It may be stated that this state aid to local schools serves two distinct purposes. During these times of shortage of funds, the first and foremost is the definite payment or pension, which often for poor districts is a very substantial part of the funds required for school maintenance.

The second is equally important and far-reaching, being the establishment by the state of certain advanced standards and approved and tested school activities by a financial bonus or accrediting system operating through the plan of apportionment of funds giving to the local school recognition and special aid for special and deserving service rendered.

Complex as some of these systems of distribution of state funds may appear to be, they are founded on a fixed basis and operate automatically, and supply a fairly constant, reliable portion of the revenue. They are far better than any annual or biennial, pork-barrel legislative appropriations, and they avoid the uncertainties and haphazard partial division of funds according to pull or whim.

The state school funds, including as they generally do the earnings of the permanent school fund, the inheritance of the children, should be regarded as a peculiarly sacred trust.

An Example.

In my own state of Washington, the past, present and proposed plans of securing and distributing state and county school funds, while possibly not differing greatly from those of other states nor excelling them, will yet serve as an illustration of possibilities of apportionments.

A published report of 118 pages of the Public School Administrative Code Commission to the Governor and legislature of Washington, furnishes an exhaustive and constructive document with very valuable data and tables for students of school revenue systems.

In all this financial support from federal and state bases for the common schools, we must not overlook the unsolved and ever-present question of where the funds are coming from. If we are delayed in securing from indirect ways or in broader measure the increased revenues for national and state aid to the schools, we cannot proceed too fast or too liberally, nor insist that the state, by a direct general property tax at large, ruthlessly place added burdens on the exhausted taxpayers.

As representatives of the larger cities, it is but fair that in this review we should refer briefly to the phase of increased responsibility that is being thrust upon us. The constant gravitation of population towards the cities is bringing under our jurisdiction a greater and greater proportion of the poorer families of the country, thus increasing our school enrollment without compensating taxable property. These children receive the advantages of housing and instruction under the high city standards and thereby greatly increase our total costs. We all accept the statement that so far as possible equal opportunity should be afforded to every child to secure an education, the strong and rich to aid the weak and poor; but to definitely classify and locate the weak and poor in the larger groups, leads to the suburbs and poorer sections of our large cities. With the acute educational problems, the serving of this vast majority of the children congested in the cities, presents no small part of the difficulty of financing our schools.

Limitations.

In all our efforts for the schools, as in any line of endeavor, we are confronted with very definite limitations, and these we are compelled to observe: The legal limitations found in state constitutions, which can be amended only by persistent campaigning; statutory limitations on indebtedness and on tax levies; a fixed basis for current state funds, and occasionally for county funds.

Constitutional and statutory limitations on indebtedness and tax levies must be retained, as they are necessary safe-guards; but the diminishing purchasing power of the dollar, and the possibly more extended credit required to conduct the expanding business of school systems, are bringing here and there a demand to extend the limitations. Many, however, think it doubtful whether, having passed the peak load of high costs and with a downward trend, there should be any change in this standard.

If any extension of limits, for either the issuing of bonds or for higher taxing power is sought, it should be with the precautionary requirement of a higher percentage vote of the electors approving each such additional debt or higher tax rate. Many would add a property or tax-paying qualification for electors in determining such questions.

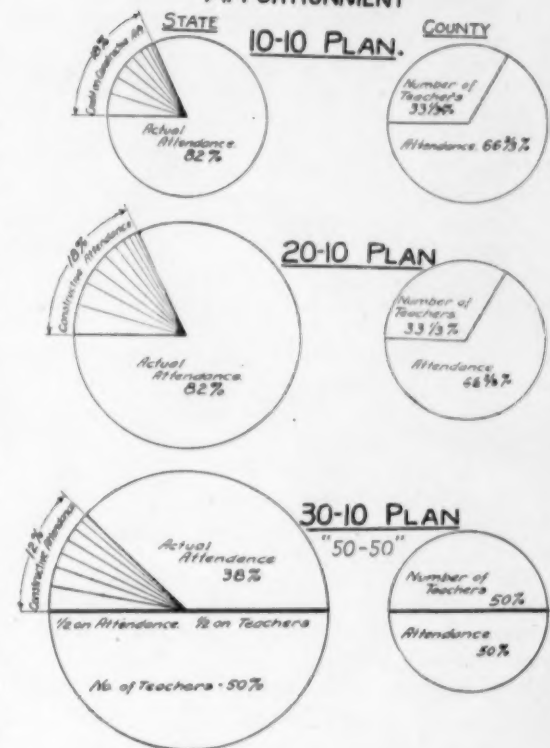
School authorities, such as boards of education, acting for the general public, are frequently confronted with the very extremes only, on these general financial problems of school administration—limitations insisted upon from points of view the farthest apart. Often the reasonable, middle-ground, common sense, business-like stand has few or no advocates, unless it fortunately happens that the school directors themselves assume that safe and sane attitude.

If we listen to the platitudes and slogans of the optimistic propagandist, demanding without limit, everything to speed the educational millennium, obsessed by constant rehearsal of the direful doom of the schools of America, a complete break-down unless his urgent demands are at once completely acceded to, then there must be no limit to expenditures. "Nothing too good for the schools" is true, but probably used as recklessly and misapplied as often as many other trite sayings.

At the other extreme we have the pessimistic wail that the state has gone "education crazy"; "fads and frills"; "not practical as in my day"; "too much bosh"; etc., etc.; and the groan of the taxpayer, with "his back against the wall"; "property now a liability instead of an asset"; "actual confiscation," etc.

STATE OF WASHINGTON

STATE AND COUNTY SCHOOL FUNDS APPORTIONMENT



Between these two extremes the school directors and business officials are the buffer. There is no escape. It is wholly impossible to be sufficiently progressive and liberal on the one hand, and to put on the brakes, to slow down to the economical stage, insisted upon by the other. The responsibility has been definitely placed on the directors, and in turn, the school business officials, who, if properly fulfilling their mission, are sharing and working, not only for the board, but with the board.

It is possible that this revenue question can, to a very great extent, be met by increased efficiency in administration; and while a major portion may devolve on the educational supervision and leadership, the business side, by effective cooperation, by decisive adherence to strict business methods, with a comprehensive budget system and complete conformity to its limitations, frequent reports and statements, keeping directors intimately advised on every phase of receipts and expenditures, can, in a measure, aid in securing best results at a minimum outlay. The board itself can be the decisive factor in securing such results. No apparent disregard of the interests of the taxpayers, nor any attitude of superiority and exclusive judgment, above and beyond any connection with ordinary business standards, should be assumed.

A broad viewpoint should be taken of all other governmental problems and obligations, especially the manifold municipal questions, that we may not unduly and inopportunistically press or inject our forward plans when evident that we cannot hope for success.

In states where school affairs are a part of or depend upon, or are controlled in any way by politically governed municipalities, a complete segregation should be at once attempted. A separate corporate entity is essential for successful school management and control.

Conclusion.

In concluding this outline on school revenues, I can but acknowledge my inability to discover any easy way, any short cut, any new bubbling fountain that will furnish in abundance the much needed revenue. No futile chase of a will-o'-the-wisp has been indulged in. There

(Continued on Page 17)

Reorganizing A School for Semi-Annual Promotions

Allan J. Williams, Superintendent of Schools

Lake Placid is a summer resort town in the Adirondacks. The summer population is about ten thousand, and the all year population about 2,500. The school has about 600 pupils and 28 teachers.

When the writer took charge of this school in September, 1920, the following condition obtained: Although there were two classes in each grade, both classes were doing exactly the same work. For example, both classes in the fourth grade were starting the first half of the fourth year's work, and the same situation obtained in each of the other grades.

A study of the age-grade situation of the school showed, as indicated by table I, a total of more than fifty per cent over age. This condition, as shown by the graph, Fig. I, was practically constant from the third to the eighth grades.

The problem presented was to reorganize the school so that semi-annual promotions could be made, and at the same time to attempt to reduce this high total over age.

As a basis for this reorganization the Otis

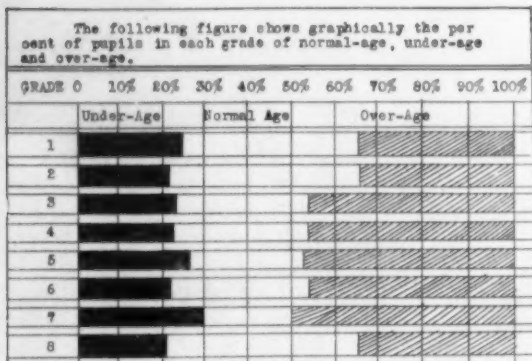


FIG. 1.

intelligence tests were given. In grades two and three the primary test was used, and in grades four to eight the advanced test.

A distribution as to mental age was then made for each grade as shown by Table II. This distribution was divided approximately in the middle for each grade. The upper half was placed in the B class and the lower in the A class. The work of the B classes was then planned so that they should finish the work of their respective grades in January.

AGE	FIRST	SECOND	THIRD	FOURTH	FIFTH	SIXTH	SEVENTH	EIGHTH
5	7							
5+	7							
6	8	3						
6+	8	3						
7	9	10						
7+	9	10						
8	10	11	2					
8+	10	11	2					
9	11	12	3	1				
9+	11	12	3	1				
10	12	13	4	2				
10+	12	13	4	2				
11	13	14	5	3				
11+	13	14	5	3				
12	14	15	6	4				
12+	14	15	6	4				
13	15	16	7	5				
13+	15	16	7	5				
14	16	17	8	6				
14+	16	17	8	6				
15	17	18	9	7				
15+	17	18	9	7				
16	18	19	10	8				
16+	18	19	10	8				
Total	72	66	55	54	54	70	53	35
Normal	29	27	19	22	15	13	12	7
Under	14	9	6	4	8	18	12	8
Over	28	30	30	28	31	29	29	20

TABLE I.

TABLE III. PERCENTAGES OF UNDER AND OVER-AGENCY.

Grade		Before reorganization								Total
		1	2	3	4	5	6	7	8	
Under	.....	20.8	13.7	10.9	7.5	14.9	25.7	22.7	22.9	15
Normal	.....	40.3	40.9	34.5	40.7	27.7	18.6	22.6	20.0	31
Over age	.....	38.9	45.4	54.6	51.8	57.4	55.7	54.7	57.1	54

Grade		After reorganization								Total
		1	2	3	4	5	6	7	8	
Under	.....	23	21	23	23	27	22	30	22	24
Normal	.....	43	46	31	32	27	33	19	44	34
Over age	.....	34	33	46	45	46	45	51	34	42

The lowest mental age in the B class of each grade was as follows: Grade two, 7 yrs.; grade three, 8 yrs., 9 mo.; grade four, 8 yrs.; grade 5, 8 yrs. 8 mo.; grade 6, 10 yrs. 4 mo.; grade 7, 11 yrs. 4 mo., and grade eight, 12 yrs. 10 mo.

In each case the tests were administered by the writer so that there could be no question of the validity of the results.

In addition to the above mentioned promotions the Otis tests were further used to sort out the exceptional pupils who might profit by double promotion. It was thought best not to give double promotions to pupils below the third grade, but three pupils were promoted from the 3B class to the 4B thus gaining an entire year. In like manner three pupils of the 4B class, five pupils of the 5B, ten of the 6B, and six of the 7B pupils were given a double promotion. In the two months that have passed at the time of writing this, only two of these pupils have failed to keep up with the grade and had to go back.

M.A. & Mos.	4-8	5-6	6-4	7-2	8-0	8-10	9-8	10-6	11-4	12-2	13-0	13-10	14-10	18 & over	T
Score	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140
Otis Test	5	19	29	39	49	59	69	79	89	99	109	119	129	139	149
* Grade 2	4	19	13	7	10	4	1								58
* " 3			3	9	12	8	11	5							48
" 4	1	5	8	8	8	5	8	1							44
" 5		4	4	9	10	7	5	3	4	1	1				48
" 6		1	3	2	8	12	10	14	8	5	2	2		2	69
" 7				2	3	6	6	6	7	5	4	6	3	2	50
" 8							2	6	5	5	6	4	2	3	33
TOTAL	5	29	31	37	51	42	43	35	24	16	13	12	5	7	350

* Grades 2-3 placed according to mental age. Score is not the same for them.

TABLE II.

AGE	FIRST	SECOND	THIRD	FOURTH	FIFTH	SIXTH	SEVENTH	EIGHTH
5	7							
5+	7							
6	8	3						
6+	8	3						
7	9	10						
7+	9	10						
8	10	11	2					
8+	10	11	2					
9	11	12	3	1				
9+	11	12	3	1				
10	12	13	4	2				
10+	12	13	4	2				
11	13	14	5	3				
11+	13	14	5	3				
12	14	15	6	4				
12+	14	15	6	4				
13	15	16	7	5				
13+	15	16	7	5				
14	16	17	8	6				
14+	16	17	8	6				
15	17	18	9	7				
15+	17	18	9	7				
16	18	19	10	8				
16+	18	19	10	8				
Total	72	66	55	54	54	70	53	35
Normal	29	27	19	22	15	13	12	7
Under	14	9	6	4	8	18	12	8
Over	28	30	30	28	31	29	29	20

TABLE IV.

School Business Officials Meet in Detroit

Tenth Convention Discusses Financial, Building and Accounting Problems.

To the man who is accustomed to attend conventions of teachers and superintendents, the annual meeting of the National Association of School Business Officials is an inspiring and reassuring experience. School business executives are not hardened convention-goers. They take the papers and discussions rather seriously and they are eager for information and help, and equally eager to share of their knowledge and experience. They are chary of educational theory and prospective school undertakings. They speak of facts and seek general principles as evolved from experience. They act on their findings and are intensely concerned that their reports and recommendations shall be translated into practice.

Above all, they recognize that the primary interest of the educational system is the welfare of the child and the growth and perpetuity of our democratic institutions. It is reassuring to know that the practical business affairs of the city and town school systems are in the hands of such earnest, capable and conservative men and women. They constitute a very necessary check and balance for the theoretic, "spending" minded professional educator and the uninformed school board member.

The Detroit convention, held May 16 to 20, inclusive, was marked by the consideration of three fundamental business problems of the day: (a) the reestablishment of the financial security of the schools, (b) the solution of the school housing problem, and (c) the improvement of methods of handling business affairs, including purchases of supplies, textbooks, repairs, and accounting.

The First Day.

The address of Pres. George F. Womrath constituted the keynote for the entire meeting and proved in fact to be the feature of the first day. It is significant of the character of the association and of the friendly relations which have sprung up between the members, that Mr. Womrath referred to his pleasant experiences as president of the association and to the cooperation which was accorded him during the year by the members. Mr. Womrath spoke of the growth and purpose of the organization and outlined its service from 1910 when the seven original members met at Washington, until the present day when the association represents 130 members in more than one hundred city and state school departments. From a comparatively narrow program for standardizing school accounting and financial reports, the organization has grown in function to include every aspect of the business control of city school systems for the purpose of improving the educational service to the children. The annual reports and the several documents of the association have become the single most valuable library of school business administration. Among the achievements of the organization in a constructive way are its reports on standardized accounting, on school building measurements, on janitorial service. Mr. Womrath recommended that the association organize a central bureau, in charge of a permanent paid secretary, in order that it might better function as a clearing house for information on accounting, financing, purchasing and building construction.

Forecasts Business Officers' Functions.

Mr. Womrath discussed rather fearlessly educational surveys as a means of increasing administrative efficiency. He declared that surveys too often are the result of disruptive

criticism based on political and partisan interests. He said:

"Am I too much of an optimist—or is it a dream so wild that there is no possibility of it ever being realized—in hoping that the Association will some day have a bureau of its own—an anti-survey bureau if you wish to call it such—through which our members may secure, upon request, the services of a committee to help them solve any problem that may be causing them difficulty, whether it be accounting, budgeting, purchasing, handling supplies, janitorial service, schoolhouse maintenance, or any other subject, without having to wait for a criticism to come and then, perhaps, involve him in a survey conducted only too often in a way which indulges in a criticism of personalities instead of a survey of policies and administration.

"It is almost overwhelmingly evident to everyone awake to the signs of the times that present methods of procedure in the business administration of public schools will undergo a radical change in the near future.

"This change will affect every department and division of school activity. We must prepare ourselves to meet the changes which are bound to come and be ready to adjust ourselves and the particular work which has been assigned to us by our respective boards so as to promptly meet and smoothly blend in with the new conditions when they present themselves. In so far as it is possible, we must anticipate these changes so that we will not be wholly unprepared to meet them, no matter when or in what form or from what direction they may come.

"Thus the secretary, in addition to his present duties, will be required to demonstrate his ability as a publicity agent in a way that will actually sell the schools to the public. His methods of publicity must be modernized and made gripping upon the public. His field of action is at present in an antagonistic attitude, made so by the failure of public school administrators to take the public into their confidence. He must from now on sell schools and not pedagogy. The approach that must be instituted is well illustrated by the expression of Sam Jones, who said: "I don't care much for theology or botany, but I love religion and flowers." Let us talk to the public in language which will sell the schools to them.

"The architect will be called upon to meet the building situation with schoolhouses planned not only to meet the desire for architectural beauty but which will be economical in construction and highly efficient in their design and layout as to educational uses and administration. Special attention must be given to the elimination of space which is not constantly in use.

"The financial agent will be required to secure much more money than ever before by not only discovering new sources of revenue, but sources which will be productive of far larger funds while not arousing the antagonism of the taxpayer because based upon more equitable distribution of the tax burden.

"The purchasing agent must differentiate more than ever before between quality and quantity; quality, as affecting total expenditure, and quantity, as affecting the actual needs for effective education.

"The auditor and accountant must determine to the nth degree the cost of every school activity, so that the subjects taught may be sifted through the finest mesh of public demand to know: 'What does it cost?'

"The supply commissioner must keep records which will enable him to regulate the distribution of supplies on a unit or per capita basis with such accuracy and equity as to practically eliminate the requisition.

"In every department the ability to create, develop, direct and economize must become the watchwords.

"And it is for the purpose of helping our members in all of these activities that the bureau to which I have referred should be established. Modern industry, commerce and manufacture have their efficiency engineers; why not the public schools?"

Mr. Womrath was followed by Dr. E. Vernon Hill, president of the National Society of Heating and Ventilating Engineers, who spoke on



ARTHUR KINKAID,
Decatur, Ill.
President-Elect, National Association of School
Business Officials.

Schoolhouse Ventilation. Dr. Hill takes an advanced stand on the problem of ventilation and argues for improved methods both from the hygienic and engineering standpoints. He illustrated by means of charts and mechanical appliances, how schoolrooms which are deficient in ventilation can be brought up to a healthful standard. Dr. Hill's paper constituted a powerful argument for mechanical ventilation, as opposed to uncertain and poorly balanced plans of window ventilation.

The Second Session.

The second session opened with a discussion of the constitution and by-laws and the standardization of association reports. The Committee on Textbooks headed by Mr. Samuel Gaiser of Newark, N. J., presented a very complete report on the procedure recommended for the purchase, distribution and handling of textbooks. The Committee departed somewhat from the apparent scope of its investigations to argue the problem of free textbooks and to recommend a single line of procedure for handling books. It apparently did not take into account the fact that conditions vary greatly in various cities and states, and that alternate methods might reasonably be worked out for communities where conditions differ very radically.

A sidelight on a very important educational problem of the present day was presented by Capt. F. O. Smith of the American Legion. Mr. Smith argued at length the necessity for the rehabilitation of world war veterans and discussed the failures and the successes of the plans which the government has adopted under the Federal Board for Vocational Education and the War Risk Bureau.

A distinct treat for the members was the address of Dr. P. P. Claxton, United States Commissioner of Education. Dr. Claxton has unusual ability in marshalling educational facts and statistics in a broad way for a popular audience. He summarized conditions and problems and argued remedies in a way that has made him the most valuable commissioner of education which we have had. The average secretary and business manager of boards of education sees the school problem in terms of his own community and it was quite evident from the response to Dr. Claxton's address, that he had won his audience and aroused considerable enthusiasm for the study of school problems from the national standpoint.

The Second Day.

The entire second day of the convention was devoted to the problems of school finance and

revenue. The first speaker was Mr. Reuben W. Jones, secretary of the board of education, Seattle, Wash. Mr. Jones spoke from the standpoint of the practical man, who must look to municipal and state sources for adequate revenue to cover the expenditures of a large city school system. While he referred in part to the experiences of Seattle and of the state of Washington, he brought to his subject a breadth of understanding of general conditions that made his paper of wide general interest. His paper will be found on another page of this issue.

Dr. George W. Gerwig, Secretary of the Board of Education of Pittsburgh, discussed school business problems in a broad, constructive manner. He thinks in terms of educational service and measures school expenditures on the basis of the "high cost of ignorance" and the profitable returns of educational expenditures in the shape of citizenship, and personal and vocational efficiency. In answering the question whether the funds provided for the schools are now adequate, he said in part: "Are the funds provided for schools now adequate?"

The answer given by every school district in America is no.

"The funds are not sufficient to pay teachers living wages; not enough to build badly-needed schools for the children; not enough to protect the nation from the menace of illiteracy, nor to insure it against the threat of an ignorant anarchy; not enough to provide adults with the education, inspiration and recreation they so sorely need.

"Can we afford to furnish adequate funds for schools?"

"Rather can we afford not to pay; and then suffer the penalty which will inevitably follow neglect.

"There is loud talk these days about reducing taxes. The best way to reduce taxes is to begin by reducing ignorance tax. The ignorance tax is even higher than the mud tax and the people impose both taxes upon themselves.

Dr. Gerwig declared that while the United States spends for education more than twice as much as the leading belligerents of the late war spend together, that it still spends too little for the purpose. The United States is paying 98 per cent of all government receipts for war and its penalties, and less than one per cent for education. Three partners are interested in education, namely, the nation, the state and the local community. At present 73.5 per cent come from the local units, 7.92 from the counties, 16.8 per cent from the states and 1.8 per cent from the nation and from other sources. The remedy, he declared, is as follows:

"(a) Determine how much should fairly be spent by the whole people for education.

"(b) Decide that this cost should be distributed equally between the three equal partners, namely: first, the local community; second, the state, and third, the nation.

"(c) Take the following proper steps to equalize these contributions at the earliest practical date.

"1. Increase the national contributions. * * *

"2. Increase the state contributions by securing at once such immediate funds * * * through legislation * * *

"3. Reverse the tax system all over the country in such a way as to provide that all the proper subjects of taxation shall be fairly and equitably valued, appraised and assessed in order that such property present or potential, as is held by individuals or by corporations, shall bear a just share of the burden of all activities conducted for the joint benefit or protection of the whole people.

"4. Make a careful survey of all the material wealth, present and potential, of each local community, each state, and of the nation as a whole, and set aside a fair proportion of this wealth as an investment for permanent betterment and human welfare, in addition to the portion required for current operating expenses in order to insure a more abundant life for the people and to safeguard the life of the nation itself.

"5. Study, develop and classify those natural or potential resources which either are still in the hands of the people as a whole or which

may be placed in their hands and conserved for the common good.

"6. Reduce national war expenditures for the present and for the future to the lowest possible point consistent with safety. As and when these reductions are made, apply a fair portion of the funds thus saved to public education.

"7. Determine what proportion of state and national contributions should be made and used for the purpose of equalizing opportunities between various states or portions of states on the principle 'from each according to ability to each according to need.'"

As a means of obtaining a larger revenue, Dr. Gerwig argued for a new policy in taxation upon which he places the burden of education equally for the benefit of all. He declared that the most pathetic and inexcusable tragedy of American democracy is the history of the squandering of the educational lands conveyed by the government to the states. He argued that we should conserve and tax the permanent national resources such as lands and water power, the temporary resources such as coal, oil and gas, the replaceable results such as the forests and the undeveloped resources such as swamp tracts, undeveloped mineral rights, etc., so that the returns from them will accrue for the lasting benefit of the children.

The Handling of School Funds.

The practical problems of marketing school bonds and making school budgets constituted the two most important topics for the fourth session of the convention. The very thoughtful papers by Mr. Charles H. Meyer, Secretary of the Johnstown, Pa., School Board, and by Mr. Paul Scholz, Business Manager of the San Antonio Board of Education, can probably be best appreciated in their original form. They will appear in the columns of the JOURNAL. Mr. Meyer urged especially that school boards study very thoroughly the legal formalities required for issuing and selling school bonds. He held that the care devoted to the procedure necessary for bonding cannot be too minute, and while the red tape may be troublesome and seemingly unnecessary, it is essential because of the very important and embarrassing results which follow any slight carelessness. Mr. Scholz discussed The School Budget from the standpoint of improving the educational service of the schools. He argued that the budget must in a sense control every phase of the administrative work of the schools and that it will not be a satisfactory instrument unless it is well proportioned and reflects a constructive school policy. It must be a means to eliminate waste as well as to provide adequate funds for every reasonable activity which the schools undertake.

School Building Efficiency.

The address of Mr. William B. Ittner of St. Louis, on School Building Efficiency, proved to be the single sensational address of the meeting and aroused considerable comment. Mr. Ittner devoted himself to a discussion of the "Candle of Efficiency" evolved by the Committee on Standardization of Schoolhouse Planning and Construction of the N. E. A. and argued that this Candle is dangerous unless its use is accompanied by a thorough understanding on the part of the architect of educational processes and needs and of all requirements for safety, flexibility in use, administrative utility and high quality of artistic design. Mr. Ittner compared four plans of school buildings erected in recent years and showed that one plan which gave evidence of marked efficiency as measured by the Candle of Efficiency, was in reality very unsatisfactory from the educational and administrative standpoints and contained serious defects so far as safety is concerned. He showed on the other hand, that buildings which are unusually complete and efficient from the standpoint of educational and community service, are penalized when considered in the light of the

Candle and will be given a poor rating by a school board unacquainted with fundamental educational benefits.

In discussing the paper, Mr. Frank Irving Cooper of Boston, showed that no plan for rating school buildings could be followed without the acceptance of fundamental principles, by planning for completeness in educational service, safety to life, administrative efficiency and high architectural quality. He declared that the Candle did not intend to penalize a building which offers a broad educational service on improved lines, but that it did intend to point out when such a plan proved to be poorly balanced and inefficient from the standpoint of the achievement of a great number of architects who have planned the most successful of recent school buildings. The Candle merely declares that the building is efficient if it provides for fifty per cent of space to be devoted to educational purposes and rates a building as successful when it reaches this minimum. The proper use of the Candle implies the acceptance of all the known standards of safety and administrative service because none of the buildings from which the Candle has been evolved, lacks any of these essential details. The subsequent discussion by Mr. Edward T. Baldwin, of Pasadena, showed very clearly that the Candle has been of great value in pointing out to architects when their buildings have been wasteful in plan. It has proved to be an incentive for better planning and has actually resulted in greatly increased efficiency in school buildings.

The meeting on Thursday afternoon was opened by a report of the Committee on Standardization of Schoolhouse Planning and Construction. The Committee presented a most interesting method for estimating school building construction, costs based on a unit method which is being evolved by Mr. Frank Irving Cooper, Mr. James J. Mahar and Herbert L. Patterson of Boston. The Committee recommended that units of "work" be established so that any school building plan can be analyzed into its several factors and by the application of the "units" a rather complete working estimate can be prepared. The Committee asked that it be given another year to study its recommendations and to apply them in a practical way before making a specific recommendation.

Landscape Gardening was presented to the Association in an interesting paper by Mr. Charles E. Greening of Monroe, Mich. Mr. Greening argued that every school building should be given a setting of shrubs, flowers and green sward, both for the community value and for the educational influence on children. Mr. Greening discussed his subject in an informal, enthusiastic manner that aroused considerable interest.

The Third Session.

Two papers were presented on Thursday morning on Publicity and on Building Programs. The former was handled by William C. Bruce, editor of the School Board Journal, and the second was presented by Mr. P. C. Packer, assistant superintendent of schools, Detroit, Mich. Mr. Packer very carefully analyzed all the elements which go into the preparation of a school building program. He declared that the first element is a thorough survey of the educational program and a very careful understanding of the educational service which the several school buildings are to give. The steps in making such a program are: first, a thorough study of the character of the city; second, the determination of a complete policy of organization of the educational system; third, a survey of the existing school plant to determine its physical character, distribution of buildings, safety and adaptability

to its future school needs; fourth, the planning and construction of school buildings for the future and determination of their location; fifth, the study and working out of the problem of financing the new schools, and sixth, the selling of the program through publicity.

Mr. Packer gave as a practical illustration of each of these steps, the experience of his department in the city of Detroit. He showed by means of charts, maps, and statistical tabulations the exact character of the city of Detroit and of its educational system. He declared that in the past school buildings have been located in a haphazard way without any regard to size, distance of travel or future growth in population, or even loss in population. He discussed in detail the principles which are being applied in abandoning old school buildings and in locating new schoolhouses. The other complicated factors of present population, probable shifts resulting in increase or loss of school attendance, the existence of railroad lines, factory districts, street car lines, parks, undesirable business streets, etc., were explained in detail in their influence on school building.

He declared that no school building policy in a large city can be successful, unless it is based on a continuous census which shows the location of every child. A proper building policy can only be maintained if such a permanent census is used as the basis of continuous research carried on by a special department responsible to the educational staff of the schools. It must safeguard against loss of experience from changes of architects and administrative school officials, as well as members of the board of education. It must base its studies on continued progress in educational procedure in school-house planning and in school finance.

The Association was royally entertained by the school authorities of Detroit and Highland Park. The school headquarters of Detroit held open house during the week and every opportunity for studying methods of the educational and business offices was afforded. The members of the Association visited the new school buildings of the city on Monday. The Highland Park school authorities prepared a dinner on Monday evening at which an opportunity was given to inspect the Highland Park school plant and to study the school system of that city.

The annual dinner of the Association was held on Thursday evening and proved to be a distinct treat. The addresses of the evening were delivered by Mr. Malcolm Bingay, managing editor of the Detroit News, Mr. W. S. Gray, vice president of the First and Old National Bank, and Prof. J. S. Friday of the University of Michigan. Mr. Bingay made a practical heart-to-heart talk, in which he urged closer cooperation between the school authorities and the press. Mr. Gray argued that school authorities should not expand the school facilities too quickly but should practice in public school business the prudence which they would apply in their private affairs. At present, business conditions are only 30 to 50 per cent normal and there is a need for conservatism in school work. Prof. Friday described the economic condition in which the country finds itself and pointed the way for the improvement which must come in business.

The business of the convention was very promptly dispatched. The constitution and by-laws were revised to meet the conditions due to the increased size of the organization. The following officers were elected:

President, Mr. Arthur Kinkade, business manager of the board of education, Decatur, Ill.; vice-president, Mr. Samuel Gaiser, secretary of the board of education, Newark, N. J.;

secretary, Mr. R. H. Thomas, clerk of the board of education, Portland, Ore., and treasurer, Mr. Joseph Beals, secretary of the school committee, Worcester, Mass.

The attendance at the convention exceeded 120 persons. The state of New Jersey was presented with a delegation of twenty men from the state department and the several city school

systems. Michigan, Illinois, Pennsylvania, and Ohio had large delegations. The city of Chicago was represented by the executives of each of the four sections of the business department, headed by Mr. Charles E. Gilbert, secretary of the board of education. The convention received invitations from several cities but the general opinion seemed to favor Atlantic City.

A Remarkable School Board Record

Simon Gratz Resigns from the Philadelphia Board of Education

Service as a member of a large city board of education for a period of over one-half century is in itself an achievement worthy of note. But, service of a high order, coupled with a fidelity to the cause of education sufficient to win the approval of a whole community, is remarkable.

Simon Gratz resigned as a member of the Philadelphia Board of Education after serving for a period of fifty-one years. This record stands out as an exceptional one in the history of school administration in the United States, and we are unable to point to a record that covers a similar length of time and that embodies, as a whole, a larger contribution to the cause of popular education.

In contemplating a term of service of this length it becomes at once apparent that we are dealing with an unusual type of man and one that is not readily duplicated. Every community has its public spirited citizens who stand ready to sacrifice time and effort in behalf of the schools. But, there comes a day when he tires of the task, or when the public may tire of him and seek a change. Therefore, only a great service unselfishly rendered will command the continued approval of the public and make an unusual tenure of office possible.

Gave Liberally of Time and Effort.

Simon Gratz was devoted to the schools of Philadelphia. He spared neither time nor effort in their behalf, and while he was not always in accord with his contemporaries, or they with

him, he enjoyed the confidence of the professional workers, and that of the general public. If he was not always abreast with the progressive element, he was a conservator who wielded a steadying influence over school board deliberation and action. If he put on the breaks it was because he did not believe in fast travel, and there may have been times when he was afflicted with an ultra-conservatism subject to criticism, but after all he served as a balance wheel which proved a guard against exceeding the speed limit.

Mr. Gratz was appointed a member of the board, December 9, 1869, when quite a young man by the judges of the Courts of Common Pleas. He was with one exception the youngest man so honored. He participated in many school board changes and saw two hundred members come and go while he remained.

Being a highly educated man himself he sought to promote the dignity of the teaching profession and to encourage higher standards. At the same time he was a financier who secured from time to time the necessary support for the maintenance of the schools and to secure an adequate service for the money expended. Here he inspired the confidence of those associated with him as well as the powers that determined upon the financial aid which the schools were to receive.

He was a college-bred man and had adopted the law as his profession and served a term in the state legislature. And while his early career presaged higher political honors, he gave his time and talents, outside of his professional labors, to the board of education. He sought no higher honors and believed there were none outside of a school board membership.

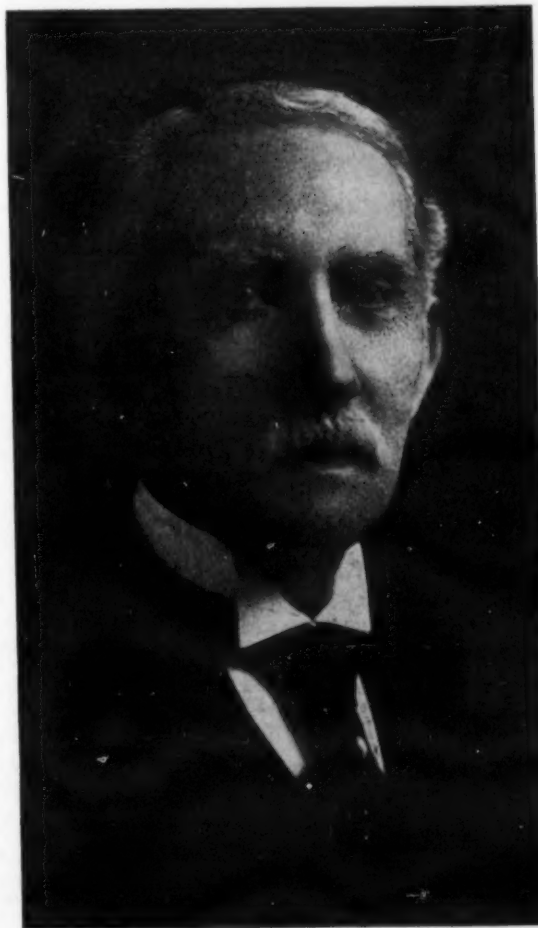
Mr. Gratz is the descendant of an old Philadelphia family. His ancestors were known in colonial times and his grandfather in his day occupied an important place in the commercial interests of the Quaker City.

When, a year ago, a testimonial reception was tendered Mr. Gratz on the completion of his fiftieth anniversary as a member of the board of education, all the teachers' organizations of the city of Philadelphia joined hands with the school authorities in doing him honor. His services were accurately measured and duly recognized.

If the present demands new men, new ideas and new methods, it may be said for Simon Gratz that he served the past with timeliness, with thoughtfulness and with efficiency. His work stands as a distinctive as well as unique achievement in the field of school administration.

What has become of the cry for reconstruction of education after the war? The men who are conducting the schools seem to have forgotten their very term.

And where are the projects for memorial high schools? How many memorial tablets have been erected? Why could not the class of '21 erect a tablet to the heroes of 1917-18?



MR. SIMON GRATZ,
PHILADELPHIA, PA.

School Building Costs and the Ohio State Laws

A Suggestion for Economy in Schoolhouse Planning

George Hunt Ingraham, Archt., Cleveland, Ohio.

In the present period of high building costs, cities and towns are confronted with a shortage of classroom space which makes school construction imperative. The situation is complicated by the fact that there is a natural inclination for school boards to think of costs as abnormal and, like individuals, to seek ways and means for putting up buildings at a cost which is somewhat in proportion to the appropriations which were considered adequate before the war.

The question may well be asked: Shall appropriations be greatly increased, so that the corresponding burden of taxation on the people is increased? Or, shall we not see if we can bring about changes in school planning to effect marked economy? In other words, shall we apply to public buildings, the necessary economies which individuals must apply in planning their homes, in order to get within a fair price, consistent with the increase in the cost of materials and labor since 1914.

It is the purpose of this discussion to show

how an economy might be effected in classroom space if the people interested in education would cause the laws governing schoolhouse design and construction to be amended to allow a saving.

The Ohio State law in regard to schools reads as follows:

Section 7: (Dimension of School and Classrooms).

Floor Space:—The minimum floor space to be allowed per person in school and classrooms, shall not be less than the following, viz:

Primary Grades sixteen (16) square feet per person.

Grammar Grades eighteen (18) square feet per person.

High schools twenty (20) square feet per person.

All other School and Classrooms twenty-four (24) square feet per person.

Cubical Contents:

The gross cubical contents of each school and classroom shall be of such size as to provide for each pupil or person not less than the following cubic feet of air space, viz:

Primary Grades, 200 cubic feet.

Grammar Grades, 225 cubic feet.

High Schools, 250 cubic feet, and in Grade "B" buildings (namely buildings appropriated to the use of schools, colleges, academies, seminaries, libraries, museums, and art galleries) 300 cubic feet. Also under—

Section 10: (Seats, desks and aisles).

Classroom Seats and Aisles:—Class and Schoolrooms shall have aisles on all wall sides.

In primary rooms, center aisles shall not be less than seventeen (17) inches and wall aisles not less than two feet four inches (2' 4") wide.

In grammar rooms, center aisles shall not be less than eighteen (18) inches and wall aisles shall not be less than two feet six inches (2' 6") wide.

In high school rooms, center aisles shall not be less than twenty (20") inches and wall aisles not less than (3') feet wide.

In all other class and schoolrooms, center aisles shall not be less than twenty-four (24") inches and wall aisles not less than three (3' 0") wide.

It will be noted from the foregoing that the legal requirements are specific in determining the floor area and the cubical content of rooms and that the law recognizes the average space required for the placing of desks and for convenient circulation around and between the desks.

Desks manufactured in the United States are supplied for the respective grades in the following sizes:

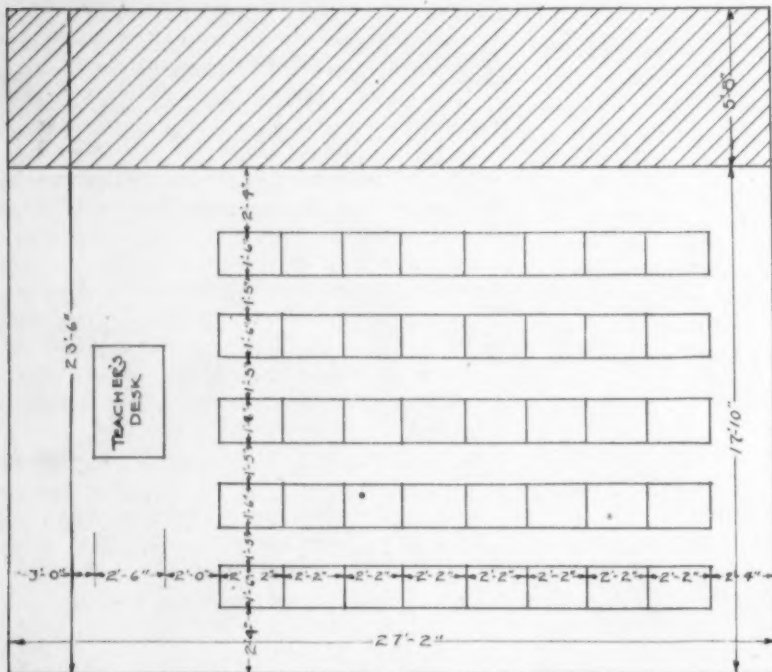


FIG. A PRIMARY GRADES · I, II, III
40 PUPILS

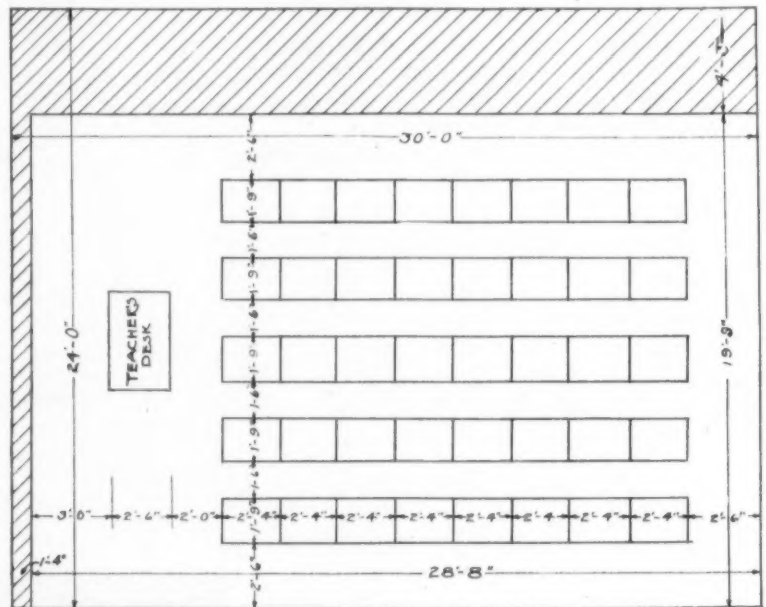


FIG. B · GRAMMAR · GRADES · IV-VII ·
40 · PUPILS ·

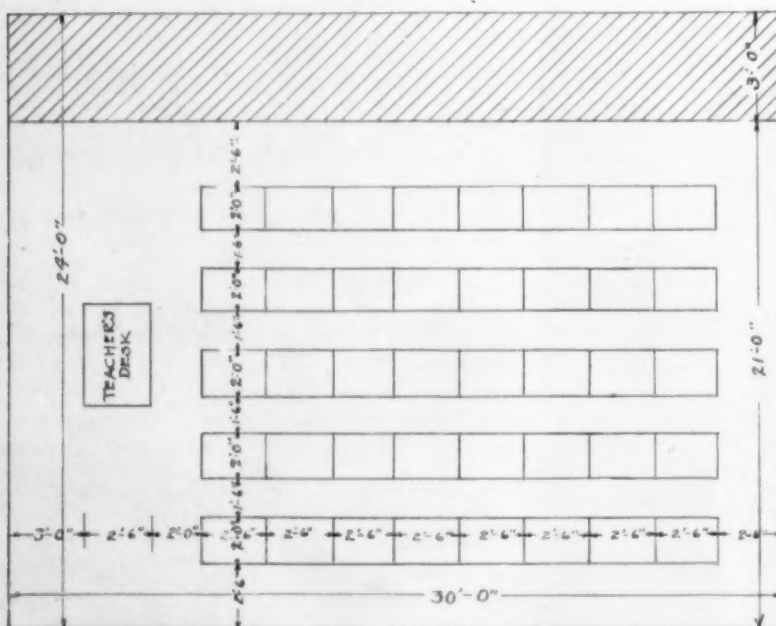


FIG. C GRAMMAR · GRADE · VIII ·
40 · PUPILS ·

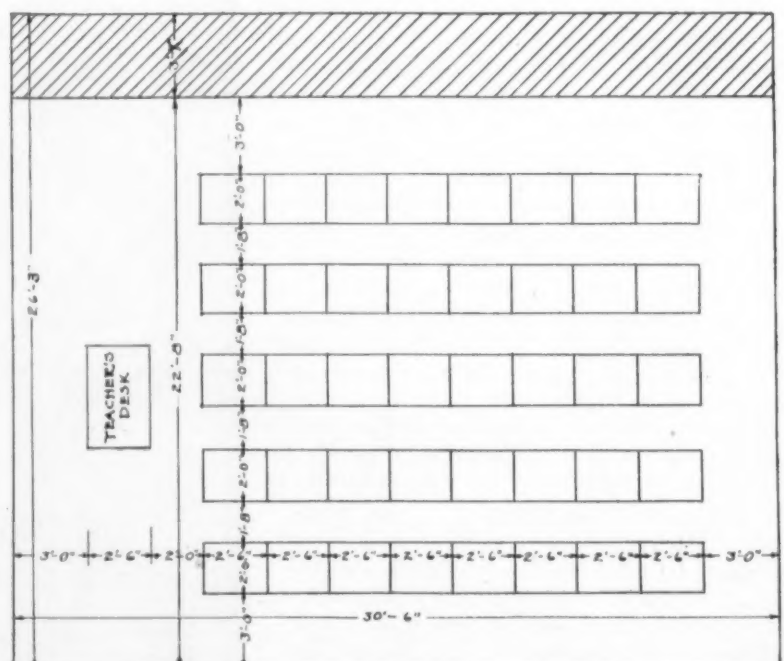


FIG. D · HIGH · CLASS · ROOM ·
40 · PUPILS ·

Primary Grades I, II, III. Size 18" x 12", set 26" back to back.

Grammar Grades IV-VII. Size 21" x 14", set 28" back to back.

Grade VIII. Size 24" x 16", set 30" back to back.

High School (freshman, sophomore, junior and senior). Size 24" x 16", set 30" back to back.

It is generally recognized by educators that the maximum number of pupils which one teacher can take care of in one room is forty.

With this maximum as a basis and with the legal requirements for aisles between desks and the standard sizes of school desks in mind, the writer has worked out four diagrams for classrooms. These diagrams represent a distinct saving for forty pupils, although the same relative economy would apply if a smaller number of pupils were taken.

The diagrams are as follows:

Fig. A. Primary Grades I, II, III.

Fig. B. Grammar Grades IV-VII.

Fig. C. Grammar Grade VIII.

Fig. D. High School—freshman, sophomore, junior and senior.

In explanation of the method and in developing these from plans it may be said that in each figure, 7' 6" is allowed from the front desk to front wall giving 3' 0" for the teacher's chair.

In the case of the primary grades (Fig. A.) the law requires 640 square of floor space (40 pupils multiplied by 16 square feet each) and 8,000 cubic feet of air space (40 pupils multiplied by 200 cubic feet each).

Using the minimum space actually required by desks and aisles, with the foregoing allowance for the teacher's desk, it will be found that a room 17' 10" wide by 27' 2" long is adequate to seat the class. We then have a saving of 153 square feet of floor area, shown by the cross hatched portion of the diagram. If the rooms are 12' 6" high there is a saving of 1,912½ cubic feet.

In the case of the intermediate grades, IV to VII, (Fig. B.) the law specifies:

Seven hundred and twenty square feet floor space (40 x 18) and 9,000 cubic feet (40 x 225) air space.

The actual minimum legal seat space, however, requires a room 19' 9" by 28' 8" which represents a saving of 153 square feet, or with a 12' 6" ceiling, a saving of 1,912½ cubic feet.

For grades VIII, (Fig. C) the law requires 720 square feet floor space (40 x 18) and 9,000 cubic feet (40 x 225) air space.

However the minimum legal seating space requires a room 21' 0" wide by 30' 0" long, a saving of 90 square feet; and with 12' 6" ceiling, a saving of 1,125 cubic feet.

For high school classes (Fig. D) the law requires 800 square feet floor space (40 x 20) and 10,000 cubic feet (40 x 250) air space.

The actual minimum legal seating space gives a room 22' 8" by 30' 6" which is a saving of 101½ square feet and 1,268 cubic feet in floor area and cubic content, respectively.

With building costs at thirty cents (30c) per cubic foot for the minimum cost and forty cents (40c) per cubic foot at the maximum cost this would give the saving per classroom as follows:

	30c	40c
Primary I, II, III.....	\$573.75	\$765.00
Grammar IV-VII.	573.75	765.00
Grammar VIII.	337.50	450.00
High School	380.40	507.20

While it may be said the classrooms of the area suggested will be badly crowded, they are within the law controlling the location of desks. As a matter of fact the present large rooms are used in many schools to accommodate larger

number of pupils when the buildings become crowded. This cuts down the number of square feet per pupil below the total provided by law and puts on the teacher the extra burden of more pupils than the reasonable maximum of forty.

The smaller rooms will have an advantage in that pupils and teachers are closer so that discipline is made easier.

In most modern schoolhouses left-hand lighting has been adopted for the classrooms. The narrower rooms suggested give each pupil a location near the windows.

The narrow rooms also reduce the span for construction, which is an element in cost. The lower the area, the lower will be the cost for upkeep and cleaning.

SAFETY TO LIFE IN SCHOOLS

Jacques W. Redway, Mount Vernon, N. Y.

Mr. Frank Irving Cooper is pretty apt to hit from the shoulder and his communication in a recent number of the Journal of Education is no exception to his efforts. "The loss of a school child's life," he says, "has become so common that no record is kept. Only when children are burned by the score do the newspapers outside of the immediate locality note the fact."

One may also add the fact that the mortality of children compared with the general mortality goes practically unnoticed. When child mortality is at the rate of forty per one thousand in one city and 124 per one thousand in another less than fifty miles away, the geographic environment in each case being practically the same, the cause of child slaughter is worth research; and when child slaughter reaches the peak of 245 per one thousand the matter should demand at least casual notice. Does it?

Outside of contagious and infection diseases the mortality among children is due chiefly to two causes: Improper feeding and defective nutrition on the one hand, and improper conditions of respiration on the other—that is, to air pollution and unnatural air conditions.

One sort of air condition to which weather observers look forward with terror is the summer hot spell. It gathers in full force every three or four years. A bank of air, the "stranded Bermuda high," accumulating off the Atlantic coast, checks the normal eastward flow of air. As a result, a stagnation of air from the coast to the plains occurs. When the temperature of the stagnant air reaches a few degrees above normal temperature and the pollution increases, humanity follows the example of crops and flowers. It wilts and dies. In the vicinity of New York City the increased mortality has occasionally exceeded one hundred victims a day for about a week. In the country as a whole the increase of deaths has reached several thousand per day.

Now all this excessive mortality is due to an overheated stagnant air, dry to excess and much overloaded with the products of pollution. So far as the relations of cause and effect of air conditions and mortality are concerned doubt has never been expressed, when the effects of those same conditions are attributed to the air of living rooms in dwellings, and to the air of schoolrooms. The claim of cause and effect brings out the supercilious smile of disbelief from the wise and the otherwise.

And yet the air conditions of most living rooms and schoolrooms is almost precisely the same as those which make the summer hot spell the deadliest of all natural air conditions. If air heated above normal temperature, dry be-

Most modern schools are supplied with mechanical ventilation so that the reduced floor and cubic area can be largely offset by simply increasing the number of air changes per hour. The actual amount of fresh air supplied per pupil can thus be maintained. In the case of gravity system this smaller floor area will perhaps not be possible if the law on ventilation is to be observed in full. It would seem, however, that for the purpose of economy, the law concerning the schoolroom area could be changed to read:

Rooms	Floor Area	Cubic Content
Primary Grades	12 sq. ft.	150 cu. ft.
Grammar IV-VII.	14 sq. ft.	175 cu. ft.
Grammar VIII.	15 sq. ft.	185 cu. ft.
High Schools	17 sq. ft.	215 cu. ft.

low normal humidity, and polluted with everything that makes it unwholesome is deadly out-of-doors, what reason is there to believe that it is wholesome within doors. Still air quickly becomes oppressive; and never out-of-doors does air become so still as that indoors.

Here is the opinion of Messrs. Parker and Kenwood, the foremost authorities of Great Britain in hygienic science: "Experience shows that air which has travelled through lengthy shafts and special air chambers has lost its freshness and is likely to cause lassitude and a feeling of depression. Among those who habitually come under its influence, chemical and bacteriologic examination may demonstrate the purity of such air, but none the less there is reason to believe that in such air the vitalizing principle of really fresh air has been diminished." Note that in this opinion the facts have been very cautiously and conservatively stated.

Here is another opinion from an engineer who for many years has been engaged in planning and constructing mechanical systems of ventilation in public buildings. I quote him partly from memory and I am not authorized to use his name: "After a dozen years of experience in planning and installing ventilation systems, I am forced to believe that the best system that has come to my knowledge is less effective than window ventilation in furnishing good breathable air to schoolrooms."

And here is the opinion of a veteran principal in a large city who declares that he will be roasted if he is quoted by name: "Illness from ailments due to bad conditions of air are more prevalent in buildings provided with intricate systems of ventilation than in our old fashioned buildings where we depend upon a few windows for fresh air."

Is it worth the while to devise effective means whereby fresh sunlit air at normal temperature and humidity may be furnished to our children when their lives are at stake?

The world's problems are solved—in the mind of the graduation class orator.

It was Emerson who remarked that "we are wiser than we know." Commencement exercises had not yet become common among high schools.

Educational measurements and standard tests do not measure educational efficiency in the broad sense of improvement in moral and social worth, civic and occupational efficiency and economic independence. But they are valuable in discovering the efficiency of teaching the respective tool subjects which all children must master.

Notes from a High School Registrar

REGISTRATION BY MAIL

By H. T. Clifton, Registrar, Pasadena High School, Pasadena, California

Why stand in line for registration for high school or college? It seems a waste of energy on the part of the applicants and a serious strain upon the members of the office force who must work in the confusion resulting. There seems no good reason why the work of an educational institution should not settle down to routine very quickly or why classes should not begin regular work at the opening session.

The following plan of registration by mail has been tried out for four years in a high school now numbering more than 2,000 pupils. It has been so successful from all standpoints that it is here presented in detail with the hope that others may find some suggestion in it which may be applied under their special and local conditions.

The contact between the pupil and the administration is largely through the head of the department in which the pupil is majoring and which he elects to enter. The head of the department acts as an advisor in all needs of adjustment to school requirements, or preparation for later work. The pupil may elect to change his department for a good and sufficient reason, but when enrolled in a department, is expected to meet the requirements laid down by the state, the school, and the department.

The relief to all concerned has been so great that we would not willingly return to any plan which requires the presence of all applicants during the registration week in more or less uneasy lines or in groups segregated in study halls often to the number of several hundred. The method presupposes that the details are handled in the administration office rather than in classrooms. When the work is carefully done under quiet, favorable conditions, we believe there will be less error in programming, less of poor adjustments for the individual and less uneven assignments to classes, than can be attained in any other way.

The only applicants who need to report in person during our registration period are those who are entering the school for the first time by transfer from high schools in other places. At no time during our last registration were there more than thirty waiting at one time in the offices for consultation with the vice-principal, whose duty it has been to consult those who are entering as new pupils. This consultation enables a tentative classification based upon the credentials which are offered. These applicants file an application card, and the necessary records otherwise required, but have no choice of classes, their assignment being arbitrarily made as their programs are worked out.

Application Card.

The application card illustrated in Figs. 1 and 2 is used for those previously in our school and is filled out by the pupil during the last weeks of May or the first week of June. The first step is for the clerk in the registrar's office who has this work in charge to enter on the reverse (Fig. 2), the name of the pupil, the course being followed and the number of units earned to midyear in the various departments of school work. One is made out for each pupil in school at the time. These cards are then sorted by "courses selected" and those of each course are sent to the head of the department who has charge of that course and who acts as advisor to pupils registered in it. It becomes the duty of each "head" to interview these pupils and arrange with them the subjects to be selected for the following year, keeping in mind the department requirements and school requirements for graduation, and also those which may be determined necessary for the pupil by preparation for college or some similar consideration.

The card is taken home by the pupil and is returned with the signature of parents or guardian signifying approval of the selection made and also with the information and signature asked for on the front.

In case of a desire to change the course which has been followed so far, the pupil carries an O. K. from the head of this department to the head of the department to be entered. There the matter of selection is adjusted on the basis of course requirements to be met and work already taken.

Course of Study Sheet.

The course requirements and items of information as to selection in these courses are given in our "course of study sheet." This is believed to be full enough to give most of the information the pupil needs. In consultation with his parents and with the help of the head of his department, his selection can usually be carefully thought out.

The Course of Study sheet which is too large to be reproduced here, outlines in tabular form all of the subjects and courses which are offered and the year in which each is offered. The school affords thirteen general courses as follows: 1, Agricultural; 2, Arts and Crafts; 3, Commerce; 4, English; 5, Home Economics; 6, Language, (a) Ancient, (b) Modern; 7, Manual Arts; 8, Mathematics; 9, Music; 10, Normal; 11, Nursing; 12, Science, (a) Biological, (b) Physical, and 13, Social Science.

The sheet makes the following suggestions for the selection of courses and electives:

In selecting your course and electives:

Study carefully your previous work, your present interests and your desires and plan your future work.

Make your selection here depend on carefully thought out purpose, lead to some definite end and when once chosen, give it a fair trial and ask no changes except for a reason which is better than that determining your original selection.

Each pupil should take the opportunity to have work in as wide a range of the departments of school work as is possible and to do this in a definitely corrected course leading to some completeness in one department and to more work than the minimum in related departments.

Select then your course on the basis of the major subject (the subject to be taken through the three or four years), the one in which your main interests lie and that which will give you the best preparation for your future work. Constantly study your own needs in the line chosen.

Add to this electives from as many of the other departments of school work as is possible. Consult the Head of the Department of the course chosen at all times when arranging program or considering any changes. If preparing for college keep in touch with the requirements for admission and prerequisites for courses to be taken after entrance in the institution selected. Consult the Registrar for these requirements which are subject to change at any time and which differ with different institutions.

Note—4 English 1. A third year of a Language may be substituted for Contemporary History. 2. Science and American History and Civics in the third and fourth years may be interchanged.

13. Social Science. Biology may be taken in either tenth or eleventh year. In place of Economics, Civic Organization may be taken, and must be taken in 1920-21, 1921-22.

You may arrange a course in preparation for any definite college of recognized standing meeting the requirements for admission and prerequisites for the Arts and Science Courses or those in law, medicine, teaching, business, home economics, agriculture, engineering, chemistry, the ministry, etc. Credit for graduation will be allowed in such a properly arranged course.

If you desire for good reason to take a certain arrangement of subjects within your year which does not seem to be allowed by any course outlined or by election within a course, have your parents make the request in writing, and submit it to the Registrar's office for adjustment. There is no reasonable request of this sort but can receive satisfactory adjustment, or sufficient reason be shown why the arrangement is not possible or is not desirable from the standpoint of the pupil's best interests.

The plan of courses suggested here is intended only to prevent undesirable scattering of the pupil's efforts and the objectionable features of unlimited free election which have been demonstrated in the past few years. It is subject to development as the educational demands of the pupil's best interests need adjustment to changing social conditions. See list of subjects by years and departments on reverse.

Elect to four units—4½-5 units allowed only by written permission if previous work is satisfactory or if drawing, music, etc., are part of the work asked for. Each blank line in the semester list is to be filled in with an elective.

Application Card.—Refer to the reverse side of this sheet when making out your application

APPLICATION CARD—PASADENA HIGH SCHOOL—READ CAREFULLY															
SUCCESSFUL	UN-SUCCESSFUL	PROTEST	NO HIGH SCHOOL	TUTOR	W	N	J	B	C	9	10	11	12	No.	
VACCINATED		PHYSICAL COR.	SCHOOL	PERMIT											
SMALLPOX															
CERTIFICATE FROM		SUMMER SCHOOL		WITHDRAWS		RE-ENTERS		REASON		DATE ENTERED					
APPLICANT TO FILL IN COMPLETELY BELOW HEAVY LINE ONLY DO NOT WRITE ABOVE															
NAME OF APPLICANT IN FULL LAST NAME FIRST NAME MIDDLE NAME															
Use no abbreviations. Application must be IN INK in applicant's handwriting.															
ADDRESS		STREET		NUMBER OF BLOCKS FROM SCHOOL		TELEPHONE		AGE OR SEPT.		Yrs.		Mo.		IF NOT LIVING WITH PARENTS STATE RELATIONSHIP OF PERSON WITH WHOM LIVING	
PASADENA															
PARENT OR GUARDIAN		NAME		HOME ADDRESS OF PARENTS (IF NOT IN PASADENA)											
OCCUPATION OF PARENT OR GUARDIAN		ATTENDED SUMMER SCHOOL IN CALIF.		AT		BIRTHPLACE		GRADUATE OF PASADENA GRAMMAR SCHOOL							
		SINCE JULY 1ST.		WEEKS		FATHER		Yes		No					
						MOTHER									
						SELF									
SCHOOL LAST ATTENDED		PASADENA HIGH SCHOOL		PASADENA		LOCATION (TOWN AND STATE)		DATE OF LAST ATTENDANCE							
ARE YOU TO DO OTHER THAN SCHOOL WORK OUTSIDE OF SCHOOL HOURS		IF SO, WHAT IS THE NATURE OF IT AND TIME TAKEN EACH DAY		PLEASE ANSWER SAME QUESTIONS AS TO SUMMER WORK											
My signature below certifies to my intention to aid in every way possible in the work and purposes of the school by being punctual and regular in attendance upon my classes, by being diligent and faithful in the assigned work of the classes, by following the State Laws governing high schools (including the Anti-Fraternity Law) and the rules and regulations of this school and in all ways endeavoring to forward the ideals for which the school stands.															
Signature of Applicant															

TO BE FILLED IN BY APPLICANT EXCEPT IN BLANK COLUMNS				PLEASE FILL IN FIRST SELECTION OF SUBJECT FOR EACH SEMESTER OF NEXT YEAR AND IN ORDER AS GIVEN UNDER COURSES IN COURSE OF STUDY			
NAME				1ST SEMESTER		2ND SEMESTER	
COURSE SELECTED	Number Units earned to date	Number Additional units necessary		Term & half	SUBJECT	Term & half	SUBJECT
1 English							
2 Modern Languages							
3 Ancient Languages							
4 Mathematics							
5 History							
6 Biological Science							
7 Physical Science							
8 Commercial							
9 Home Economics							
10 Manual Arts							
11 Agriculture							
12 Arts and Crafts							
13 Music							
14 Drawing							
15 Military							
Units above represent	total to end of first semester only.						
16 units necessary for graduation							
15 two-semester units necessary for college entrance without examination. These differ with institution and college course chosen.							
Do you expect to graduate next year? No Yes				I AM PREPARING FOR COLLEGE			
				COLLEGE COURSE			
				OTHER INSTITUTION			
				BUSINESS			
				Reason for selection			
				THE ABOVE COURSE MEETS WITH OUR APPROVAL			
				FATHER			
				MOTHER			
				GUARDIAN			
				THE ABOVE TO BE SIGNED BY BOTH PARENTS OR BY GUARDIAN			
				APPROVED BY			
				DATE			
				DEPT.			

FIG. 1. FRONT OF APPLICATION CARD. FIG. 2. REVERSE OF APPLICATION CARD.

1920-1921			PASADENA HIGH SCHOOL												1st SEMESTER														
AGRICULTURE				ANCIENT LANGUAGE				ART				COMMERCE																	
TEACHER	CLASSTIME	CARTER 101A	HOLMES 309	TRUMAN	CLARKE 208B	DEYO 215C	PRATT 219C	WATKINS 124C	GEORGE 208B	GLEASON 208B	LEWIS 225C	ANDERSON 208C	FLINT 230C	MELUS 214C	THOMAS	THORNTON	WOOD 209C	WRIGHT 224C	PER										
1	8:15-8:55	Technical Co. 374									Business Co. 229B									1									
2	9:05-10:05	Technical			10 Latin	10 Latin	9 Latin	Latin	History 10B	9 Draw			10 Bookkeeping	10 Bookkeeping	9 Bookkeeping	10 Bookkeeping	10 Bookkeeping	10 Bookkeeping	10 Bookkeeping	2									
3	10:10-11:10				10 Latin	10 Latin	9 Latin	Latin	Math 10B	11 Draw			10 Bookkeeping	10 Bookkeeping	9 Bookkeeping	10 Bookkeeping	10 Bookkeeping	10 Bookkeeping	10 Bookkeeping	3									
4	11:15-12:15				10 Latin	10 Latin	9 Latin	Latin	9 Draw	Life Science			10 Bookkeeping	10 Bookkeeping	9 Bookkeeping	10 Bookkeeping	10 Bookkeeping	10 Bookkeeping	10 Bookkeeping	4									
5	12:55-1:55				10 Latin	10 Latin	9 Latin	Latin	9 Draw	9 Draw			10 Bookkeeping	10 Bookkeeping	9 Bookkeeping	10 Bookkeeping	10 Bookkeeping	10 Bookkeeping	10 Bookkeeping	5									
6	2:00-3:00				10 Latin	10 Latin	9 Latin	Latin	11 of Art	Embroidery			10 Bookkeeping	10 Bookkeeping	9 Bookkeeping	10 Bookkeeping	10 Bookkeeping	10 Bookkeeping	10 Bookkeeping	6									
ENGLISH																				MILITARY									
TEACHER	CLASSTIME	HOLMES 123C	ALANBY 124C	BATE 121C	FRITZ 135C	LAME 187C	WICKLEY 137C	NORTON 125C	OLIVER 221C	PERKINS 133C	SEGNER 131C	SHATTUCK 135C	WALSH 119C	WOLFE 129C	PETERS 19C	STERLING 17C	WRIGHT 214C	PER											
1	Technical Co. 374																Public Speaking	Public Speaking	1										
2		English	Latin	10 American Literature	English	10 English	English	English	10 English	10 English	English	English	English	English	English	English	English	English	2										
3		English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	3										
4		English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	4										
5		English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	5										
6		English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	6										
HOME ECONOMICS										LIBRARY		FRENCH				MODERN LANGUAGE				SPANISH		MUSIC							
TEACHER	CLASSTIME	MCGORAY 10 377 <th>ANDREWS 205 B<th>BARRETT 105 B<th>SIMPSON 107 B<th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>PER</th></th></th></th>	ANDREWS 205 B <th>BARRETT 105 B<th>SIMPSON 107 B<th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>PER</th></th></th>	BARRETT 105 B <th>SIMPSON 107 B<th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>PER</th></th>	SIMPSON 107 B <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>PER</th>															PER									
1	Technical Co. 374																			1									
2	Technical Co. 374																			2									
3	Technical Co. 374																			3									
4	Technical Co. 374																			4									
5	Technical Co. 374																			5									
6	Technical Co. 374																			6									
MANUAL ARTS										MATHEMATICS										PHYSICAL EDUCATION									
TEACHER	CLASSTIME	MARTIN 105 E	BOONE 201 E	HALL 110 E	HEAD 114 E	MORIS 110 C	PICH 110 C													PER									
1	Technical Co. 374																			1									
2	Technical Co. 374																			2									
3	Technical Co. 374																			3									
4	Technical Co. 374																			4									
5	Technical Co. 374																			5									
6	Technical Co. 374																			6									
BIOLOGICAL										SCIENCE										SOCIAL SCIENCE									
TEACHER	CLASSTIME	PERSON 101 A	CRONKOST 103 A	GRIFFIN 101 A	HENDON 104 A	JONES 104 A	MCNEEL 108 A	MUNDY 106 A	WINSTON 201 A	YOUNG 109 A	CLIFT 205 A	HOWARD 204 A	FRENCH 204 A	RUTTER 204 A	STODARD 204 A	WILEY 225 C	AGRAMS 225 C	DAVIDSON 225 C	HARRISON 225 C	KOTZBA 225 C	MILLER 225 C	SMITH 225 C	WELLS 225 C	PER					
1	Technical Co. 374																								1				
2	Technical Co. 374																								2				
3	Technical Co. 374																								3				
4	Technical Co. 374																								4				
5	Technical Co. 374																								5				
6	Technical Co. 374																								6				

FIG. 3. PROGRAM OF CLASSES.

card and specify the exact subject and year in which it is offered. Do not use such general terms as Language, English, Mathematics. If you select the Language Course you must take at least three years of one language.

In addition to the preceding suggestions the following notes are added:

Further Notes—Regarding Selection of Work and Credit Allowed.

Admission—Pupils will be admitted to the ninth grade who hold a certificate of promotion from the eighth grade of our schools or who have an equivalent preparation.

Application for work for the next semester must be made on the card furnished and the information asked for should be fully given. The pupil is not regularly enrolled however, until final Registration is completed and program card received (see Registration note later).

Endorsement of selection—When the course has been selected, the subjects to be taken should be arranged with and endorsed by the Head of the Department chosen and receive the written approval of the parents or guardian.

Pupils will be expected to take four full unit subjects or the equivalent, in the order prescribed in the course selected. Any change from this requirement will be made only with the written permission of the Principal. If sufficient reason is shown by parents, pupils will be allowed to take partial work upon application to the Principal, and with his written approval.

Change of course or subject—A pupil may be permitted only for good reason, to change from one department to another; but he must meet the requirements as defined by the Principal and Head of Department in the department to which he changes. Changes of program or course, unless occurring in the interests of administration, will be allowed only on written request of parents, with the written approval of Principal and through a card showing the change issued by the Change of Program Committee. No variation in program will be allowed until such card is issued and then only if its instructions are followed.

A department may allow substitution of one subject for another within the department or make any proper adjustment to meet individual needs.

Selection and arrangement—A pupil shall put first on his program the uncompleted subject or subjects farthest back in his course. In his electives he may choose freely from the subjects of his own or the preceding year, in any department, on the advice of his own department. For good reason, he may obtain written permission from the Faculty Council to take work of an earlier year.

Registration—Registration shall take place during the week preceding the opening of the first semester and consists in the filing of vaccination certificate and other required data, checking of application and the issuance of program card which is sole authority for admission to classes on the opening day.

Late entrance—Entering late, a pupil must get permission from the Head of the Department before enrolling in any class in that department. After one month, he may take no more than three subjects, and after two months, no more than two subjects (except by special permission from the department concerned, provided he has previously done work in those subjects).

Credit for previous work—Credit from other schools will only be allowed here and entered on the records, when pupils shall have passed satisfactorily succeeding work in this school. A written and properly authenticated statement showing subjects taken, grade, number of weeks and periods per week is essential for a proper estimate of credit due.

Definition of unit—One unit represents credit given for a subject pursued for one year, five periods per week, requiring equivalent outside preparation or in general one-fourth of the full year's work. The subjects shown to the left on this sheet, receive one unit for the year except where exception is noted or subject is shown as semester subject.

Graduation—Sixteen units in a regularly arranged group, are required for graduation. The diploma of the school will be given only upon the satisfactory completion of one of the four-year courses or its equivalent.

No pupil will be graduated who has not been one year in residence, and such year must be the last year.

Number—Classes will not be formed in a subject unless a sufficient number of pupils apply for the subject.

School requirements—3 years of English, Biology or equivalent, American History and Civics or equivalent and Military Drill are required of all pupils in all courses.

Units made—A minimum number of units must be made each year by a pupil in order that he be allowed to remain in school: 1½ units the first year, 2 units the second year, and 2½ units each, the third and fourth years. In case a pupil fails to make the required minimum the first year, his case shall be passed upon by the Council, but the second year, he shall be dropped by rule.

Withdrawal—Pupils, who at any time after formal admission, for any reason whatever, desire to withdraw from the school before the close of the semester, are expected to report their purpose, by written note from parent or guardian, to the Registrar, and receive honorable dismissal. Failure to observe this requirement may be considered sufficient reason to refuse readmission or transcript of record to another school.

College recommendation—1. A pupil may be recommended to college in subjects which he has taken in this school and in which he has made an average grade of at least 2.

2. To avoid disappointments at the last minute, in all cases pupils planning to enter college must consult catalogs for the actual requirements of admission and prerequisites for course to be taken, and high school course selected and work arranged to meet these.

3. The prerequisites to college courses desired are usually as important to consider as the minimum requirements for admission.

4. The following suggest these requirements: Attendance—Statistical studies show an average attendance of the enrolled pupils of the school of approximately ninety-five per cent. This means, on an average, an absence of only one day in each twenty days or a school month. This is slightly less than five per semester.

If you are absent more than this, you lose enough of the class work to seriously lower your standing, to render it more difficult to satisfactorily prepare your assigned work, and in general to interfere with systematic work in any line.

Absence persisted in, without absolute necessity, becomes a habit of increasing seriousness and renders good scholarship impossible.

Scholarship—All pupils enrolling in the school should carefully select the work to be carried, gauge it to their ability, and make it their first interest to carry it successfully. Careful and conscientious preparation, particularly in the foundation parts, is absolutely essential. Recommending grades should only be given for a really high standard of scholarship. For entrance to business pursuits of any kind or to other institutions of higher education, the qualifications emphasized are: (1) personal character and seriousness of purpose, (2) quality of preparation and intellectual promise. Recommendations of any sort should be withheld from those who have shown themselves to be undesirable or unpromising from the point of view of moral qualities or habits. Is the work you are offering for credit absolutely your best effort? The school, in what it offers you, is deserving of nothing less.

School Citizenship—The above and, in fact, all activities and duties in connection with the school, are but a part of your obligations in school citizenship. This is, in turn, but a part of and a preparation for your obligation as a citizen of the world outside of the school.

"It is well for individual students, for classes, and for schools to understand that school citizenship consists chiefly in doing the right thing, that it is not necessarily a thing apart from regular work and activities. Especially should students see that school citizenship consists in obeying the spirit of school rules, in order that school laws may not be necessary, or, if they are formulated, need not be enforced, and that the school, the spirit of the school, its work and its success, depend upon the scholars and their spirit, not upon forms of school-government or obvious examples of self-supervision."

What have you done? What are you doing? What can you do? What is the primary purpose of the school and the spirit of its administration? Think it over.

Program of Classes.

A Program of Classes (Fig. 3) is worked out from the department programs as constructed by the department heads. The number applying for each course to be given can be obtained from the application cards as soon as the department heads return them to the office.

Figuring normal increases or those likely to occur under the conditions as evident at the time, additional classes can be provided to meet these increases beyond those on the past year's program.

Heads of departments are indicated with their telephone numbers, so that in case necessity has arisen for a change in the subjects previously selected, the written request of the parents may be sent and discussion of the proposed change may be had over the telephone.

The written O. K. of the head of the department is added to the written request which is filed with the original application card.

SCHOOL LUNCHES AND LUNCHROOMS

First Article
George A. Nichols

A new "study" is being added to the curriculum of the American public school. It is food.

Looked upon a few years ago as a fad—as one of those high brow "isms" that well-meaning people are everlastingly trying to saddle onto the school system—it has proved itself as one of the most sensible and necessary things having to do with the education of the child.

After all one must eat. Even the poets do that occasionally—when they have the price. If they did not they could not write poetry. Some of them can't anyway. The Bible says something about man not being able to live by bread alone. But you can't find a place where it advises you to cut out eating as a permanent proposition.

A couple of years ago I went out to Northwestern University settlement in the heart of the slum section of the northwest side in Chicago to address a class of young men. They ranged in age from eighteen to twenty-five. With one exception they were products of that section. And with the same exception they lacked the vigor, the health and the vitality that one expects to see in the average American of that age.

Miss Harriet Pittum, head resident of the settlement, told me later that their trouble was one of malnutrition. They had had enough food in their lives so far as bulk was concerned. But in the matter of brain building and body building their diet had been sadly at fault with the result that they now go out on life only half

equipped to fight its battles. Another person connected with the settlement showed me a little girl six years old who had the crookedest pair of legs I ever saw in my life. They were bowed in a shocking way. The child was not crippled. But instead of milk her misguided parents had given her beer and coffee. Her poor little bones thereby were denied the proper amount of lime. They were soft like some of the half formed bones you see sometimes in a piece of veal. When she started to walk the legs bowed out just as would any other weak thing bearing too heavy a weight.

These of course are extreme cases.

But even among the rich children are starving.

PASADENA HIGH SCHOOL

Your Application Card is on file indicating that it is your intention to attend the Pasadena High School during the school year 1920-21.

In order to make your final registration complete and at the same time make it possible for you to register without appearing in person, we are asking that you answer *completely* the enclosed inquiries and make out your own program from the printed program to be found on the reverse side of this sheet.

If in the R. O. T. C., place first class in second period and arrange your remaining recitations consecutively in the periods following with no study periods intervening. If not in the R. O. T. C., Physical Education must be taken and may be arranged for any period during the day. (Students who have been enrolled in R. O. T. C. must continue.)

If you have found it necessary to make any change in your selection of subjects as shown herein, you must send a written request of your parents to the Head of your Department and consult with the Head. (Phone numbers of Department Heads are indicated on reverse side. Phone between 9 and 11 A. M.)

No changes in the program which you select below will be allowed, either in subject or its arrangement, after this sheet is returned to the Registrar. Study this program carefully and be certain your selection is as you desire it. If for any reason it becomes impossible to allow your first choice in teachers, your second choice may help us in making the adjustment. Instrumental Music, etc., is to be arranged after the opening of school.

No new or late pupils will be registered on September 20.

BE SURE TO ENCLOSE vaccination certificates when returning this sheet.

The acceptance of the program you have made below is subject to the condition that you return it before the classes are full, otherwise the Registrar's Office will make a different program, following your choice in so far as is possible.

Subject Approved on Application Card	PROGRAM SELECTED BY PUPIL				Second Choice Teacher
	PER'D	Subject	Room	Teacher	
1		R. O. T. C.			
2					
3					
4					
5					
6					

Course Selected: _____ Approved: _____

Signed: _____ Pupil _____ Parents or Guardian _____

Home Address—Street: _____ Phone, Colo.: _____ F. O. _____

City or Post Office: _____

MAKE YOUR
RETURN
AT ONCE

Your program card admitting to classes may be obtained at 7:30 A. M., Monday, Sept. 20.

FIG. 4. LETTER TO APPLICANT.

The whole program can be carefully checked for conflicts between classes in different departments, these being the more likely as the number of classes in the subject become fewer.

When this has been worked into final shape, it is reproduced in the form shown, by etching on zinc.

The printing of these forms and all others mentioned is done in our school print shop.

Letter to Applicant.

A letter to the applicant (Fig. 4) is printed on the reverse side of the program sheet, the sheet being 8½ x 11 or regular letter size, and self explanatory.

It provides for information as to change of address or telephone number if such has occurred, and indicates whether the vaccination

certificate has to be renewed or encloses the protest card allowed by the State law, so that it may be returned with the signature of parent or guardian. The selection of course and subjects being already provided for, these items mentioned above are about all of the reason why we have hitherto asked our pupils to stand in line for hours at a time. It is true that we could see without questioning whether the applicant was white, negro, or of the yellow race, but this information can be obtained otherwise.

This letter is mailed to the pupil two or three weeks before the opening day, the name and address in the lower left corner constituting the mailing address by the use of the "window" type of envelope of the large or legal size.

(To Be Concluded in August)

High authorities say that one-third of America is underfed.

This is why you hear of so many nervous breakdowns—of people losing out in their fight for existence, being swept under by the complexities of our modern way of doing things.

"It is what people put in their stomachs that is their ruination," Dr. Charles Gilbert Davis, a well known Chicago physician, told me. "If they would eat right and drink right—like the horse for instance—and keep away from the silly vices that only human beings indulge in there would be no such thing as disease. Ordinarily when people break down we call it a case of nerves or something of that kind. But back of it all is depleted vitality caused by lack of the right kind of food while they were growing."

To get right back at the fundamental reasons for the condition spoken of by Dr. Davis it must be that people neglect themselves in this important particular because they do not know any better. They know how to dress well. They may plan comfortable and beautiful homes. They may write books. They may direct huge businesses. They can do these things because they have been educated in them and have been trained up. But when it comes to eating—the thing that makes all the other things possible—they fall short because they do not know any better.

Some of the great geniuses in the world have to devote a good part of their splendid mental powers to the mere animal process of keeping alive. This is because they are physical wrecks through malnutrition.

One of the ablest and most prominent preachers in the country fills a Detroit pulpit. He is a dynamic orator and powerful writer. I could give his name but he probably would object to having his intimate personal affairs thus made public. This really great man keeps going through sheer will power. For years he has not been able to eat an ordinary meal. He has to be on the strictest kind of diet and if he diverges from it in the slightest degree he is likely to have a spell of sickness. Every Sunday morning before he goes to his pulpit he has to drink a tumbler full of olive oil. Otherwise he would not have strength to preach. Olive oil, hot water, a few simple cereals and bran bread are about all he can assimilate. His stomach, perhaps congenitally weak, was ruined through lack of attention to eating. He knows the world's choicest literature and a great many other worth while things, but does not know food.

Mr. Herbert Hoover who fed Europe's children naturally has some ideas on the subject as it applies to his own country. I wrote to Mr. Hoover's secretary and he was kind enough to send me a manuscript copy of a speech he had made. In this speech he declared that the nation as a whole is under obligation to provide such measures as will give its children as a whole a fair opportunity to obtain a right start in life. From a standpoint of protection to the community as a whole Mr. Hoover says the children must be assured the proper fundamental nutrition.

"After children have arrived at school age," added Mr. Hoover, "we have an opportunity to correct malnutrition due to ignorance or misfortune by providing at least one meal a day in the schools of those sections that need it. This again has a warrant not in charity but in insurance to the whole community against the deficiencies in health and mind of our population in the years to come. I believe that the definite institution of supplementary child feeding in public schools in certain places is a necessary part of municipal endeavor.

"That part of malnutrition due to ignorance on the part of parents would in time find ultimate solution if all our schools elaborated their curricula on the hygienic side up to standards set in a few localities, for at least we would catch up with the next generation. We indeed need more widely extended teaching of the fundamental of nutrition in the public schools, not only as a part of the advance in public health but also in household economics.

"Some may object that this extension of medical supervision by community nurses, clinical inspection of children in the schools, a supplemental meal in schools of certain sections, all tend to too intimate an extension of government. In the very creation of free schools and compulsory education itself, we have accepted the fact that we cannot as a nation rely for the upbuilding of the race upon the initiative of the parents alone. No one can deny that the physical development of child life is of equal importance with education. We every one of us pay the price in our jails, in our poorhouses, in our hospitals, in the loss of our economic efficiency, the fertile ground that we furnish for all the social patent medicines, for our failure to have grasped the entire problem of child development, not only intellectual but physical as well."

Considerations like the foregoing are the influences that are inducing forward thinking educators and school boards all over the country to recognize the importance of food and to make the proper arrangements in school facilities for the serving of both. When they read such sensational facts as that twenty per cent of America's school children are undernourished they begin to see that the school is doing its duty only partially when it provides for mental training alone. The statement referred to was made by Mary G. McCormick, supervisor of nutrition of school children in New York in an address before the recent session of the National Education Association. To correct the condition Miss McCormick said that intensive work should be done during the first school years of a child's life to establish him in good food habits.

The refreshing growth of sentiment in this direction is natural enough when you come to think of it. Back in the old days when I went to public school the school board considered its duty done if it provided a warm room, desks, erasers, chalk, a globe, a map or the United States, another of the state, a water bucket and two tin cups. Such essentials as ventilation, light and physical well being were never thought of.

The next step was to recognize that the construction of the building had much to do with the child's education—that light should come in in a certain way and that there should be an abundance of fresh air. Later physical education crept in. Things kept getting a little better all the while you see.

And now we see the most welcome spectacle of schools ranging from the country district to city high schools recognizing a big and most important principle in providing proper food.

By proper food and food instruction I mean in other words that the school lunchroom has become a permanent fixture. The biggest and most encouraging feature about the whole thing is that the lunchroom is being regarded not as a perfunctory method of providing the highly valuable hot lunches to children at noon, but that it is a means of teaching boys and girls in a right way the foods that are good for them.

The school lunchroom frequently supplies the means whereby the teachers and the mothers can work together in common for the good of the children. Especially is this the case in the

country where closer relations between pupil and teacher naturally exist. By the way speaking of the country, there is a greater tendency to malnutrition among country children than there is with those in towns and cities. Statistics concerning health defects of school children show a percentage in malnutrition of 16.6 for country children compared with 7.65 for city children. This is surprising when one considers the abundance of food in the country districts. But if anybody doubts the statement all he need do is consult the officials of the American Medical Association. The figures just quoted are based on the reports of over half a million children.

When this cooperation between the mothers and teachers can be brought about common errors in the feeding of children may be revealed.

For example, every child may not be given his pint of milk each day—something he ought to have.

Some children may come to school without breakfast.

The bowl of breakfast cereal may not be given its place of rightful importance.

The diet may be lacking in vegetables—of which there is no lack in the country.

Or the children may be drinking tea and coffee freely and may be eating too much meat and pastry.

A teacher in a North Dakota country school found that quite often in cold weather the lunch the pupils brought from home was frozen. And in addition to this undesirable factor it usually was made up of such things as cold pancakes, salt pork, cold potatoes, pie and a bottle of cold tea or coffee. With the possible exception of potatoes there is not a thing in the list that a child ought to eat. And considering that the potatoes were cold we might say that the lunch was utterly worthless as a health builder.

What more important thing can a school board do for the children than provide proper facilities whereby nutritious warm lunches can be had at noon and where proper instruction can be given on the general subject of foods?

Arithmetic is desirable. So are the other two "Rs". But are they any more important than food values? When you get right down to an analysis of the thing there is no branch of instruction more necessary than calories, proteins, carbohydrates and vitamins. These may be new terms for the children but they are vital ones. Moreover they can be made interesting. When they get into general practice—when they are regarded as being important as any other school branch—then you are not going to see such ridiculous and even pitiful spectacles as children in the midst of plenty in this greatest food producing country in the world, carrying to school lunches made of cold pancakes and similar atrocities. Then in the coming generation you are going to see more healthful men and women. You are going to see higher personal efficiency. I hate that word "efficiency." It is overworked these days. But it is what people need just the same.

Some school officials hold off in the establishment of lunch rooms because of two main objections. In the first place they do not conceive it to be their duty to go into the feeding business—that this is a personal concern of the people themselves.

In the second place they fear that the establishment of a lunch room involves highly technical knowledge and schooling that requires the continuous presence of experts and therefore as being something beyond their capacity.

In both respects they are wrong.

(Continued on Page 119)



JOHN B. YOUNG INTERMEDIATE SCHOOL, DAVENPORT, IA.

Three Junior High School Buildings

The most interesting development in American schoolhouse planning and construction of the past ten years is the junior high school. Just as the junior high school is a distinct type of educational organization with a specific purpose and with methods peculiarly its own, so the building which houses it has been developed along lines that are quite distinct from the old type of high school and from the elementary school. It is true that the junior high school partakes somewhat of the purpose of the secondary and of the elementary school and these features are naturally reflected in the buildings.

Since January, 1919, the city of Davenport, Iowa, has included in its school system three junior high schools that are giving splendid service and that are of considerable interest. Davenport reorganized its schools on the basis of the six-three-three plan in 1918, and the plans for the improvement were laid as early as February, 1917. The immediate reasons for the change were primarily the educational advantages and in a secondary way, the lack of classroom space. The latter gave the opportunity for carrying out the ideas and proposals of Supt. Frank L. Smart.

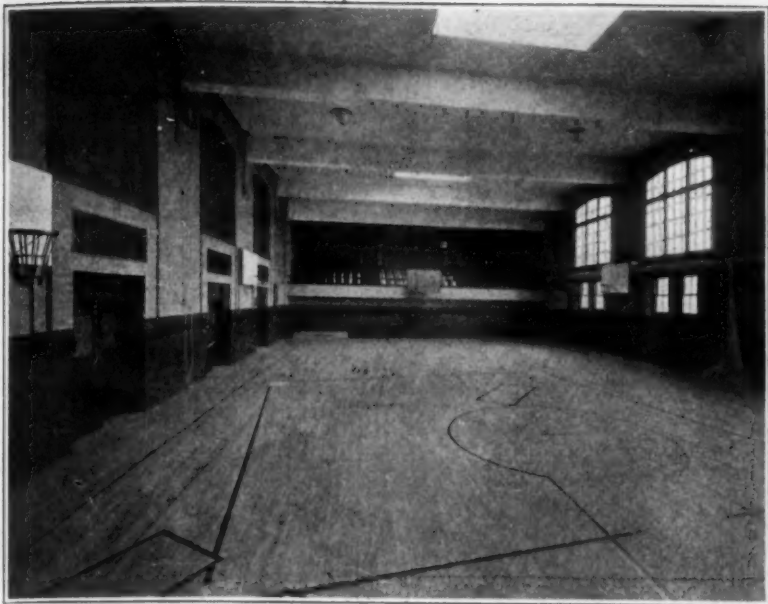
The project was made possible by a bond issue of \$850,000 voted by the people and by tax levies which increased the available funds to approximately \$900,000. The three buildings which were erected at the same time from identical plans differ only in the details of the exterior design. The East and West schools each occupy a city block comprising about four acres, but the John B. Young school, which is located in an older section of the city has a slightly smaller building plot.

The educational purpose and the enrollment of each of the buildings was estimated to be approximately the same and it was therefore thought logical that the plans might be identical. The changes in the exterior appearance are not only matters of detail but also are due in large part to the great difference in the color and texture of the brick.

Careful attention was given in the planning



JOHN B. YOUNG INTERMEDIATE SCHOOL, DAVENPORT, IA.



TYPICAL GYMNASIUM IN INTERMEDIATE SCHOOL, DAVENPORT, IA.



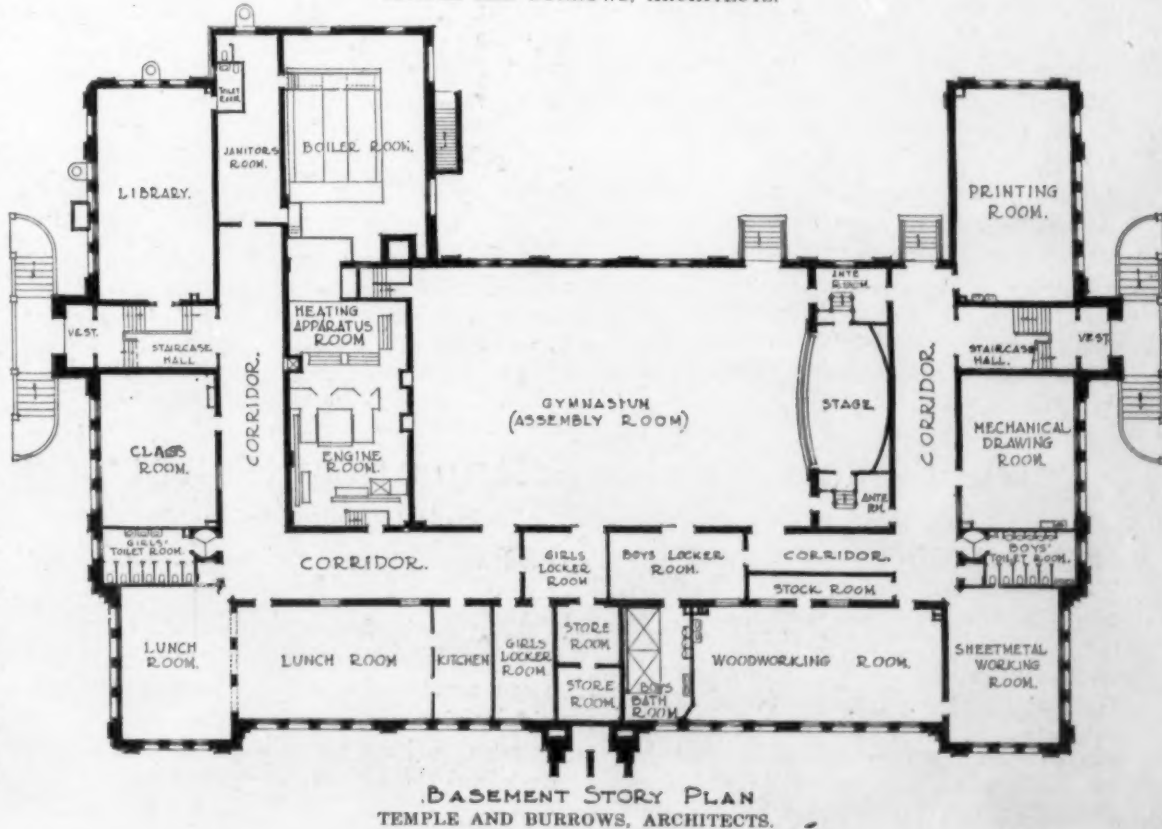
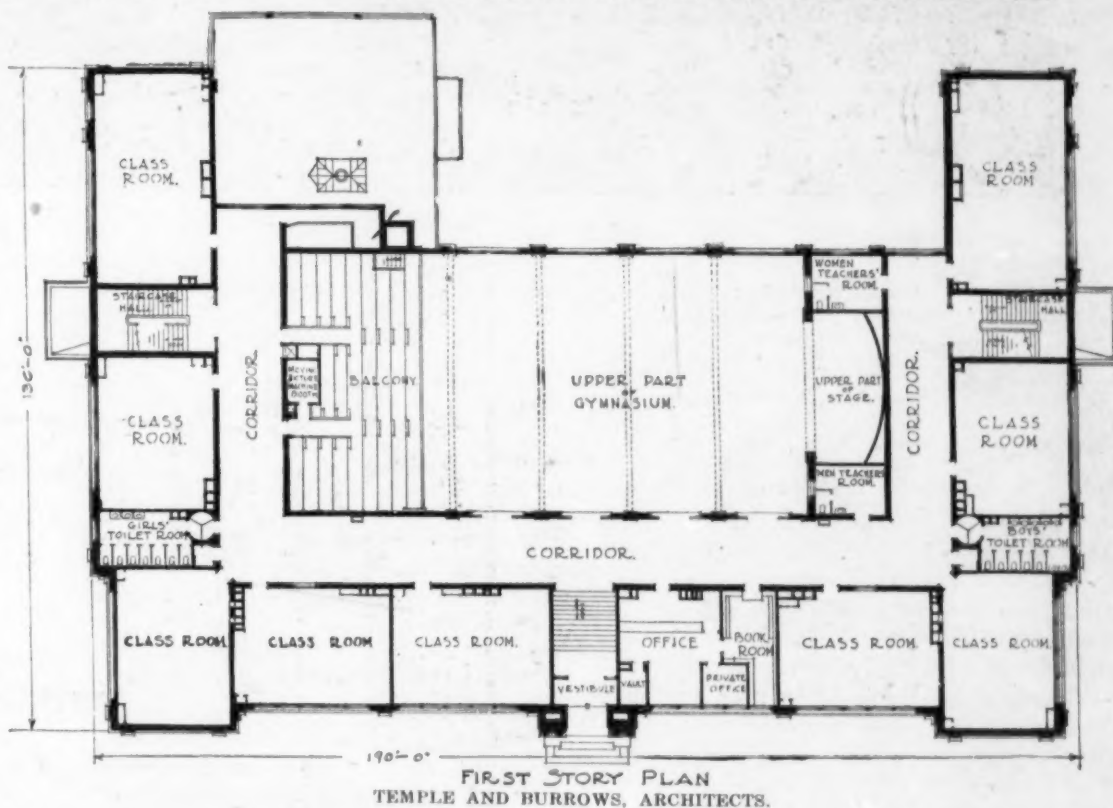
TYPICAL CLASSROOM IN INTERMEDIATE SCHOOL, DAVENPORT, IA.

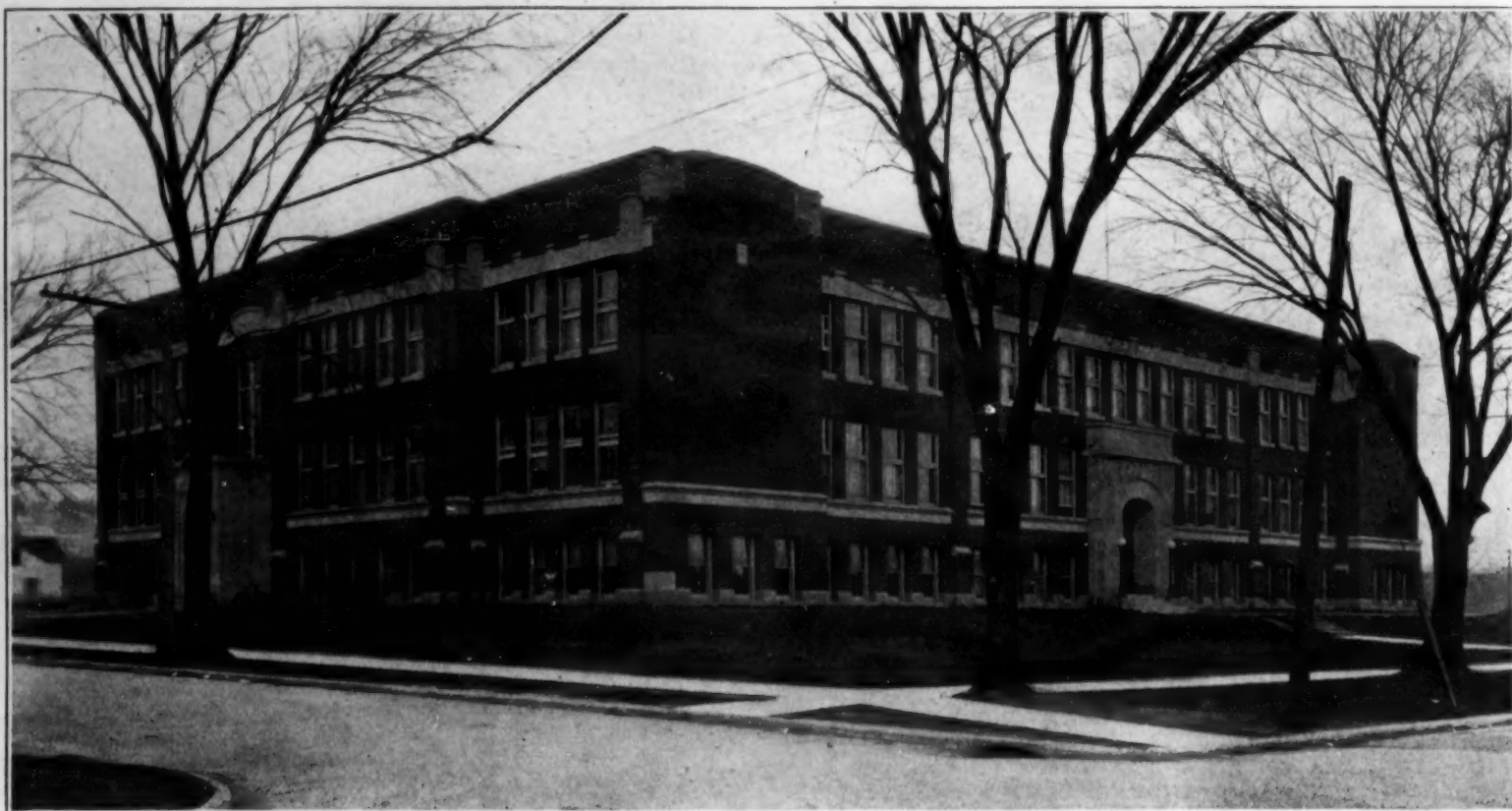
and equipment to make the buildings adequate for every possible intermediate school use without giving way to the natural inclination to make the several departments, especially the prevocational, equal in size and elaborateness with those in the high schools.

In the design both of the interior fittings and of the exterior, it was the endeavor to use only those materials which hold their own with the passing of time. Thus in the exterior all coping, belt courses and ornamental work is of stone. In the interior all walls have glazed brick base, the corridors and vestibules glazed brick wainscot, and all window stools are of glazed brick. The corridors and all toilet rooms have terrazzo floors, those in the corridors having an insert down the center of battleship linoleum to minimize noise. The stairs are of reinforced concrete faced with terrazzo with safety treads and, being shut off from the rest of the building in each story by metal doors, serve as fire towers, thus obviating the use of fire escapes.

Each school has fourteen classrooms seating from 49 to 72 pupils each; a gymnasium, of standard size with connecting locker and shower bath rooms, which, being provided also with a commodious stage with ante-rooms and with a balcony, can be used as an auditorium having a seating capacity of about nine hundred; a suite of two lunch rooms and kitchen which will serve lunch to two hundred pupils at a time; a library room, with separate outside entrance, which is used as a branch of the city library; a manual training department with separate rooms for woodworking, sheet metal work, printing, and mechanical drawing, and a stock room; a domestic science department with rooms for cooking, sewing and laundry work, and with small model room; a laboratory with store room and instructor's room; a music room; and the usual equipment of principal's office and private office, book room, retiring rooms for men and for women teachers, first aid room, janitor's room, etc. There is a toilet room for boys and one for girls on each of the three floors.

Each building is heated by the split system of heating providing fan ventilation with radiation in each room. The fan provided for the combined gymnasium and auditorium is a separate fan from that ventilating the remainder of the building and the radiation of this room as well as of the library is separate from that of the remainder of the building so that these rooms can be heated and ventilated for use in the evening when the remainder of the building is not open or heated.





WEST INTERMEDIATE SCHOOL, DAVENPORT, IA.

Each building is wired for electric lights and for power, in the manual training rooms and elsewhere where required, and is provided with lighting fixtures throughout.

Individual steel lockers for pupils are located in the corridors on concrete base faced with terrazzo.

Each building is equipped with an internal telephone system and a clock and signal bell system operated by a master clock located in the principal's office.

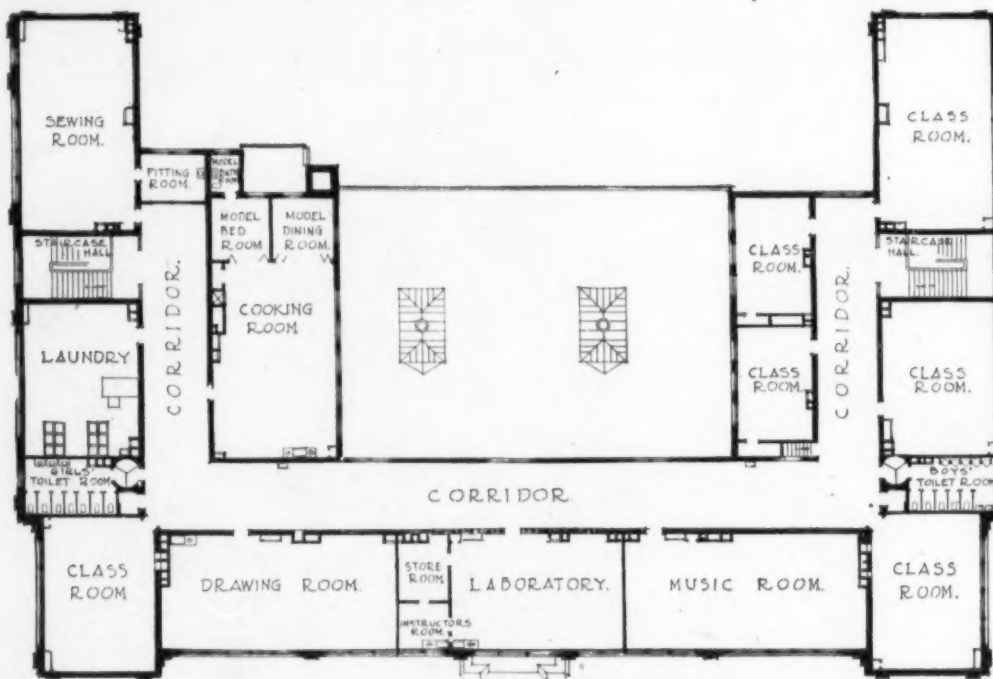
Each building is 190 feet long by 130 feet deep, accommodates between 600 and 700 pupils, and is so arranged as to be capable of future extension.

Contracts for the building were awarded in December, 1917, and the construction began March, 1918. Each was completed and occupied in January, 1919. It will be seen, therefore, that the buildings were erected before the peak of high prices of the war period was reached.

The East Intermediate school cost \$187,900 for the general contract; \$41,280 for heating; \$13,863 for plumbing, \$7,078 for wiring.

The West Intermediate School contracts amounted to \$174,200 for construction; \$40,879 for heating; \$13,907 for plumbing, \$7,078 for wiring.

The John B. Young Intermediate school's contract was distributed as follows: General construction \$176,187; heating, \$40,879; plumbing, \$13,850, and wiring \$7,078.



SECOND STORY PLAN

TEMPLE AND BURROWS ARCHITECTS.
SECOND FLOOR PLAN, INTERMEDIATE SCHOOL, DAVENPORT, IA.

The additional cost of bicycle sheds, grading, walks, trees, shrubbery, furniture and equipment and architect fees brought the average cost of the plants to approximately \$300,000.

The architects were Messrs. Temple & Burrows, Davenport, Iowa.

spected the fine schools recently built there under the supervision of Wm. B. Ittner.

Mr. Trimble was now instructed to draw up plans for a strictly modern structure to care for three hundred pupils, so built as to be used for community center. This was to be done under the direction of the superintendent, who checked all details and offered many suggestions which were embodied in the final draft.

The plans were completed and the contract let within thirty days after the bond election, but there were some delays on account of the bad state of the bond market and these combined were cause for the fact that the building was not ready for occupancy until February, 1921.

Reference to the floor plans and pictures will show that we have a standard elementary school, designed for a varied course of study and for use as a community center. The only

A Typical Florida Elementary School

S. Johnson, City Superintendent of Schools, Orlando, Florida

Under the Florida law the school board is not a continuing body, and after the school election in February, 1920, the Orlando school board was composed of three men entirely new to the job. It did not take them long however, to discover that they must provide an additional elementary school before the opening of the 1920-21 session if they were to care for the entire enrollment. The previous board had called a bond election for March, 1920, to provide

funds for this purpose, but had made no further plans.

After the bond election, which carried nine-to-one in favor of bonds, the newly elected board members decided to select an architect without formal competition, and Mr. F. H. Trimble, a local man specializing in school work, was chosen. With him and the superintendent, the board visited Jacksonville, and in-



EAST INTERMEDIATE SCHOOL, DAVENPORT, IA.

variations from the standard practice in such buildings are those thought necessary for comfort in this climate.

The classrooms are all on the corners of the building, and have unilateral lighting with eastern or western exposure. But unilateral ventilation is not satisfactory here, and so, opposite each window there is a large transom extending from the top of the blackboard frame to the ceiling, thus permitting cross ventilation. There are also three such transoms in the end of each classroom. These openings are about eight feet above the floor, and are so shaded that the unilateral lighting effect is scarcely modified, such light as enters simply making the illumination better without introducing any objectionable cross-lighting features. These openings provide ventilation from three sides, perfect circulation of the air resulting.

Much attention has been given to making each classroom thoroughly usable. The blackboards were placed at the proper height from the floor, above the boards an eighteen inch

strip of beaver board for mounting work is provided, a closet for the teacher is placed in each room, and the cloakrooms correctly placed to fit local conditions.

The two main floors are occupied by eight classrooms, the offices, rest room for teachers, clinic room, library, and store. The commodious auditorium, which seats 600 persons, is on the main floor level, and the gallery is on the second floor level.

Soil and climatic conditions here make basements unnecessary, and so the basement floor was placed less than a foot below the grade. The basement windows were made full length, and the rooms all finished, so that it becomes really another floor, presenting nothing of the typical basement appearance, every room thoroughly dry and comfortable. It includes a cafeteria seating 200, main toilet rooms, a fan room and space for manual training and physical education.

Heating is of the plenum-fan, hot-air-furnace type, satisfactory in this climate where it is seldom necessary to raise the temperature

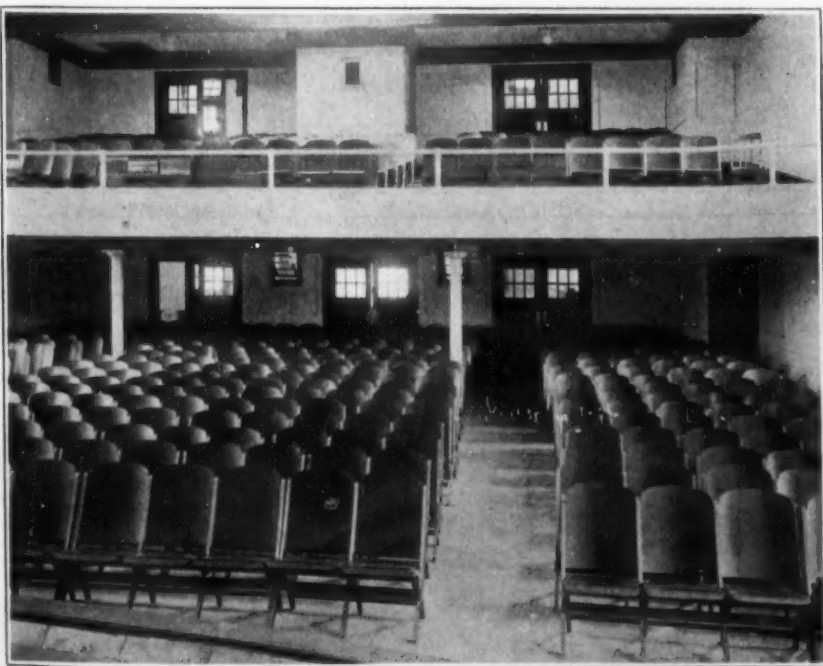
more than fifteen degrees, and quick cooling as well as quick heating, is desired. In fact, the fan is more often run to drive cool air through the house than hot air.

A good face brick, with sand lime brick for filler, was used. The trim is of cast stone; the floors are of composition, practically noiseless and non-dusting.

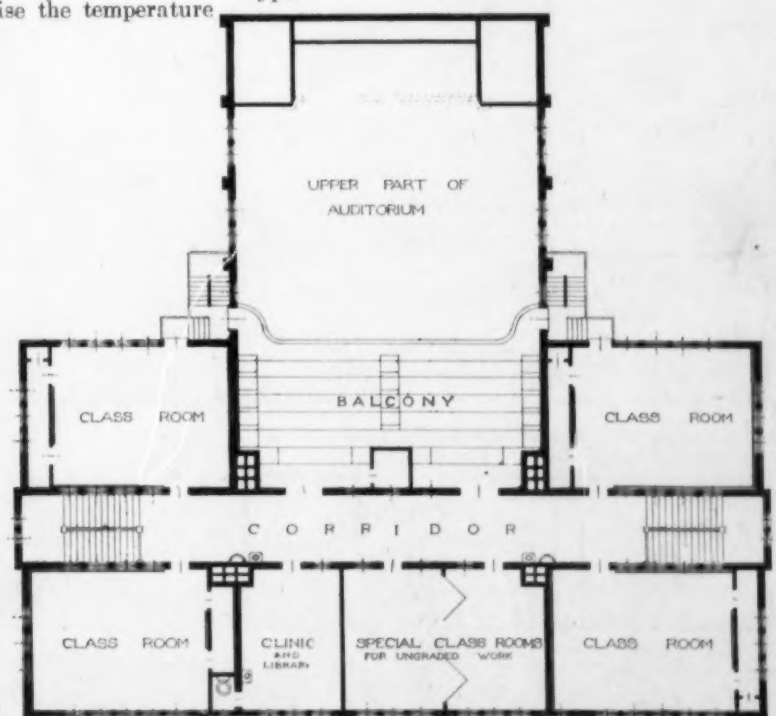
The building cost about \$93,000, unfurnished. The furniture cost nearly seven thousand dollars, including movable desk chairs for four rooms.

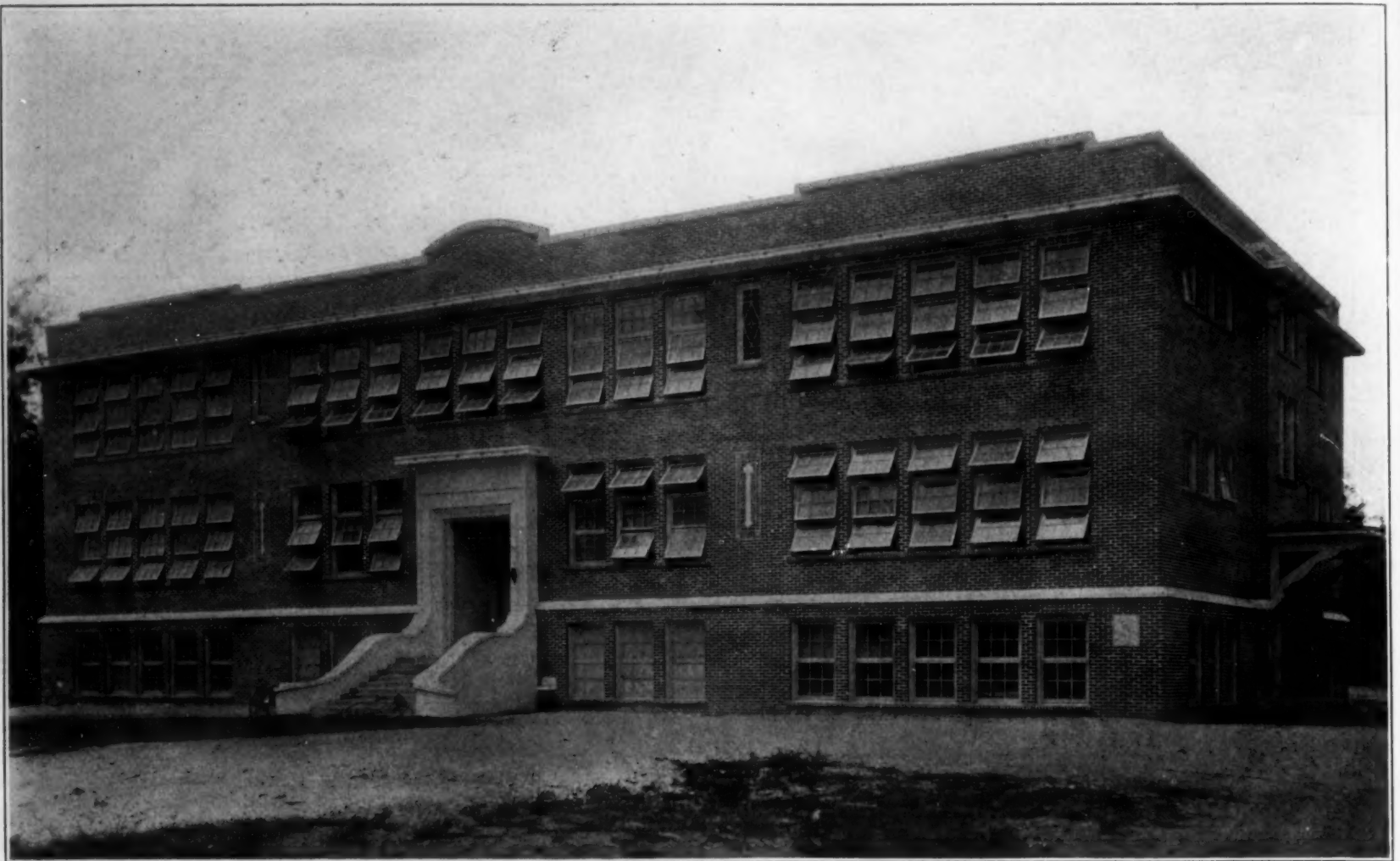
An interesting commentary on the local rate of growth is the fact that this building when planned was expected to care for three hundred children. On the day of its occupancy, 506 presented themselves for enrollment.

The bungalow or one-story type of school-house is considered desirable here, but the best advice is that it costs twenty per cent more than this design, and the Orlando board has not yet felt itself able to build the more expensive type.



AUDITORIUM IN THE DE LANEY SCHOOL, ORLANDO, FLA.

SECOND FLOOR PLAN, DE LANEY SCHOOL, ORLANDO, FLA.
F. H. Trimble, Archt., Orlando.



DE LANEY SCHOOL, ORLANDO, FLA. Mr. F. H. Trimble, Architect, Orlando, Fla.

A MECHANIC-ARTS BUILDING.
New Mechanic-Arts Building, South Cache High
School, Hyrum, Utah.
E. Perry Van Leuven, Head of Department of
Manual Arts.

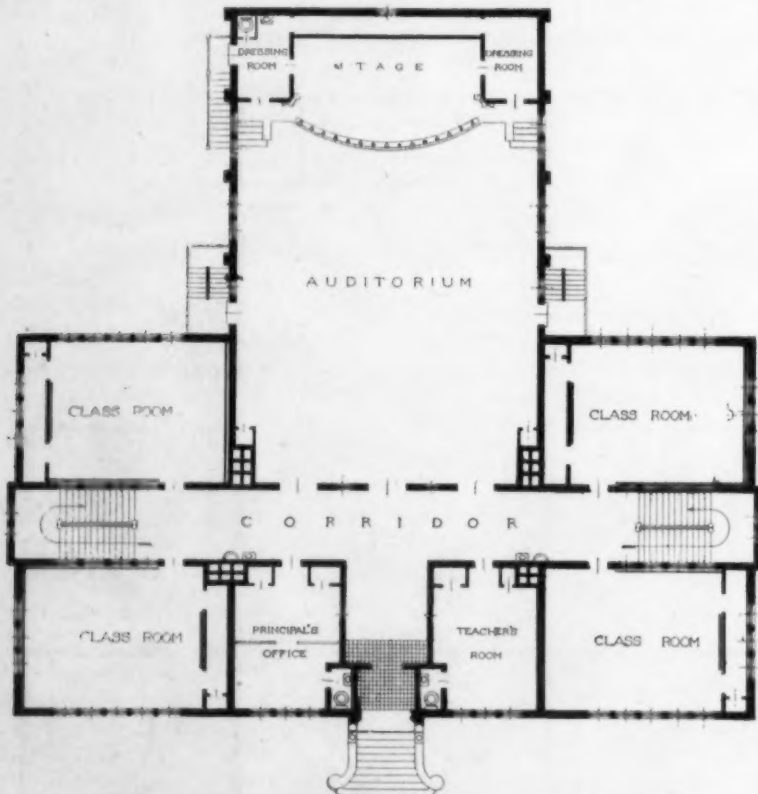
In the design of a shop building for a rural school many things must be considered. The building must be such as to accommodate courses in manual training demanded by the particular district it is to serve. The type of agriculture the community is engaged in must be met with adequate manual training. The mechanical problems of a dry farm are far different to those of a fruit farm, and the manual

training offered to the students should attempt to solve a majority of these problems.

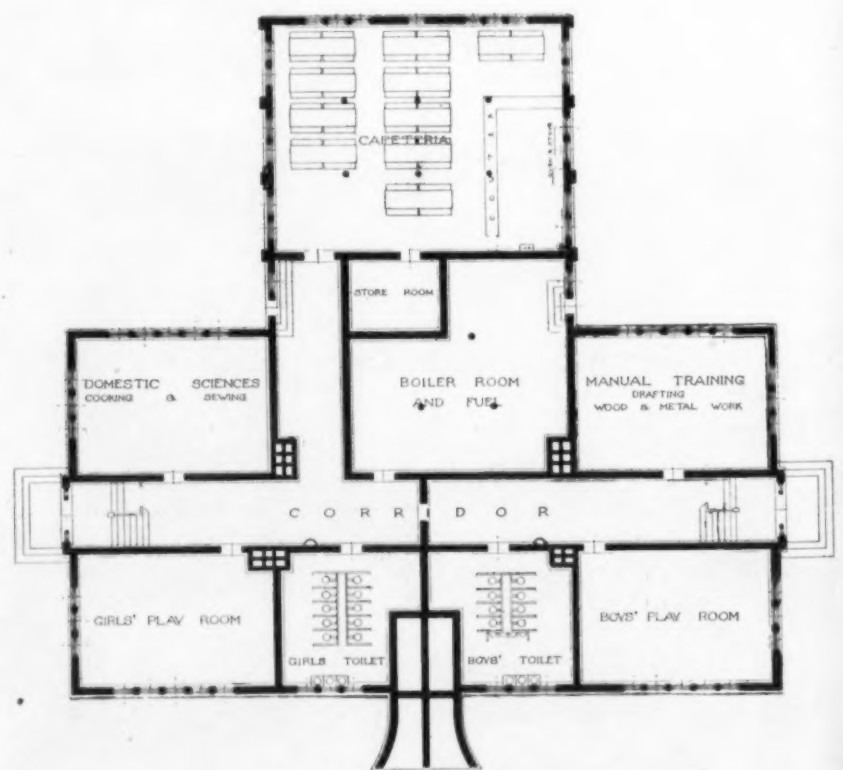
Most rural schools are not large enough to need a separate shop for each branch of mechanics for the entire school year. Many courses can and should be given in each shop room at a different time. Probably the entire course in mechanics will be taught by not more than two or three instructors. These few men will teach at least six or eight different branches of mechanics, hence courses can not run continuously. The entire class must change from one branch to another, all at the same time. It

is surely a poor policy to divide a shop building into a number of small shops, each for a specific type of mechanics when that type will only be given a few months at most.

I am of the opinion that the courses should be well outlined so that the building can be planned to accommodate the work desired, and unless the school is a trade school, in which it is known that the different departments of trade training will run continuously, that the shop should have only a few large shops for practice and the necessary tool rooms and store rooms.



FIRST FLOOR PLAN, DE LANEY SCHOOL, ORLANDO, FLA.
 F. H. Trimble, Archt., Orlando.



BASEMENT PLAN, DE LANEY SCHOOL, ORLANDO, FLA.
 F. H. Trimble, Archt., Orlando.

One of the points that has come to my notice in shop buildings is a lack of tool rooms, store rooms, etc. The absence of these rooms is a detriment to an efficient shop. Small rooms are far superior to cages and cupboards to house the general equipment of the shop. In a shop where a stock of materials must be carried, store rooms are an absolute necessity. Not only is the appearance of the shop improved but the commercial-shop atmosphere is introduced.

A paint room is a fundamental addition. Paint and varnish jobs must be removed from the shop dust and it is highly desirable that the paint room have an even temperature. In particular is this true in the repainting of an automobile. In the building design the paint room should have north light.

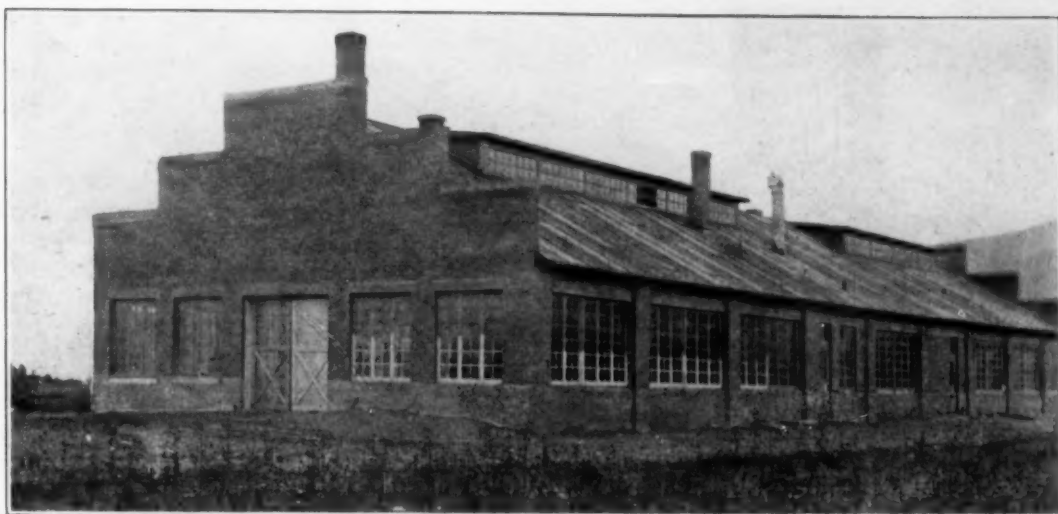
It is my shop experience that a class cannot be kept together in their advancement. It is useless to give a demonstration to a boy until he is ready to do the job. In an average class about three demonstrations are usually necessary to take care of the slow, the medium and the fast students. If this is the case it is impossible to conduct a class recitation in the shop itself. The necessity of a classroom is evident. If a classroom is provided with a demonstration bench, classes can be held for a few students, without taking all from their jobs. I have visited shops where instructors have all boys (no matter at what stage of advancement) stop working, gather around a bench and stand up the entire period, no less than three times, for a demonstration on the same project simply because the class could not be kept together and because a class recitation was impossible with boys working at their bench or machine.

It would undoubtedly be a good policy if the head of the shop department could cooperate with the architect in the design of the shop building, to properly utilize it to its maximum capacity. In this shop building the writer designed and with the aid of Mr. H. R. Adams, principal of the school, supervised the construction of the building, at no time calling for the services of an outside architect. We made our own design, wrote the specifications, got out the working drawings and blue prints, submitted the design to the state architect for approval and finally erected the buildings, letting what sub-contracts we saw fit.

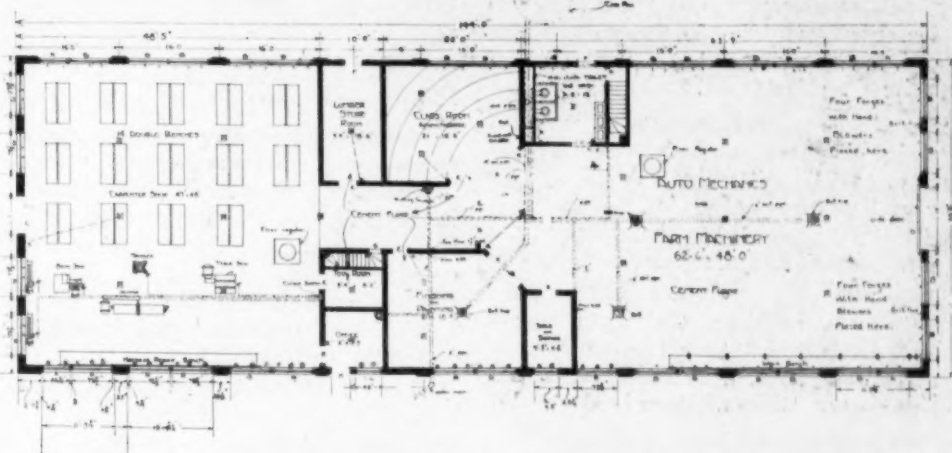
Not only did we save the board of education a considerable sum of money in architects' fees, for drawings and supervision; but the entire construction was thirty per cent below the lowest contractor's estimate. The construction was twenty per cent below the estimate made by the state architect. Wages were high; carpenters received \$7 per day, brick layers were paid \$10 and \$11, tenders \$6, plasterers \$10, and common labor, \$4.50 to \$5.

The low cost was due, we believe, to close figuring in the purchase of material, to eliminating waste of time and material, and to favorable purchase and delivery of material. The building was completed sixty days after started, so it is evident that no time was lost during construction.

The illustrations explain the building completely. A few points of interest might be mentioned. The classroom is of amphitheatre type affording good view for all students in class demonstration. This room is provided with an opening from the shop 7' by 8' in size, thus permitting the entrance of an entire machine for class study. The paint room on the opposite side of the building has a similar entrance allowing a large car or machine to be brought in for painting, washing or cleaning. These 7 by 8 foot doors are on an angle of 45



GENERAL VIEW, MANUAL TRAINING BUILDING, SOUTH CACHE HIGH SCHOOL, HYRUM, UTAH.



FLOOR PLAN, MANUAL TRAINING BUILDING, SOUTH CACHE HIGH SCHOOL, HYRUM, UTAH.

degrees permitting the machine to be placed anywhere in the room without backing or shifting.

The outside entrance of the farm machinery shop is ten feet square—large enough to admit a threshing machine for study or repair.

Each main shop has a maximum of light—that is, light from three sides and from the sky-light ventilators. With this construction it is impossible to cast a shadow on any bench or work—a very desirable condition in a shop.

The building is built of brick throughout, unplastered on the inside, except for the office and the ceilings of the classroom, paint room, toilet, and store rooms.

The roof is supported by queen rod trusses, sixteen feet on centers. The purlins, four feet on centers, are hung in stirrups and are flush with the surfaces of the trusses. There are no rafters. The sheathing is nailed directly to the purlins and trusses. The entire room is covered with five-ply tar and felt roofing. The under side of the sheathing is finished by paneling the purlins and trimming with a three inch bed mould. This open roof construction is neat and the expense of a ceiling is eliminated.

Each shop is provided with its own pipeless furnace. These furnaces take care of the heating very efficiently. A fire started one hour before school opens will raise the temperature from thirty degrees to seventy degrees. These two furnaces installed, cost only \$600. The estimate for steam heat piped from the main building was \$2,200 and I do not believe that the steam heat would be more efficient.

The floor in the carpenter shop and the office is wood, the remainder of the building has concrete floor. The truss roof gives the much desired clear floor space for shop purposes.

Electric wire conduits were placed beneath the floor in the carpenter shop eliminating overhead wiring for each individually driven machine.

Few changes have been made in the floor layout. In the carpenter shop the benches have been moved to the north side and the conduits have been installed on the south side. This was done for two reasons. The benches are used more than the machinery and are moved out of the sunlight. The machinery was moved closer to the lumber store room.

—Pres. A. S. Prall of the New York City board of education has announced the early opening of vacation schools and playgrounds with the assurance that ample funds are available for all summer activities. It is planned to use the unapportioned balance of the 1921 fund for these activities.

—Sault Ste. Marie, Mich. Six one-room schools in Superior township have been discontinued as a result of a new state law eliminating one-room schools and encouraging the establishment of larger and better buildings. Only one other school, a two-room building at Raco, remains in the township.

—Controller Charles L. Craig of the New York City municipal government, has reported to the board of estimate that the new school program of \$63,000,000 shows a general duplication of sites and buildings, with 28 sites included for which money was appropriated more than a year ago. All of the sites are either owned by the city at present or are in process of acquisition. The program also includes twelve schools for which money was appropriated in December or January, 1920.

The report mentions numerous instances of "shifting of position" by the board of education and criticizes the manner of selecting school sites. The controller lays much stress on the procrastination of the board in the matter of constructing schools on sites already available. In May, 1920, says the report, a site was selected for a school but up to the present time, no contract has been let for its construction.

One of the projects contained in the September program and omitted from the previous one, is a new school the site for which was selected in August, 1920, and actually acquired in May, 1921. This is an instance of unused real estate to which the controller calls attention.



THE AMERICAN School Board Journal

WM. GEO. BRUCE { Editors
WM. C. BRUCE {

EDITORIAL

THE CHICAGO SALARY ROW.

In instances where the cost of school administration is subjected to a reduction there is also a tendency to begin with the salary budget. The movement in the direction of increasing teachers' salaries during the past few years has received a check and here and there indications have come to the surface that a movement in the opposite direction is on.

Chicago affords a concrete example. With its usual sledge hammer methods the issue is brought to public attention of that city abruptly and picturesquely. All the partisanship and bitterness which has characterized the school administration of the great metropolis is being manifested.

The main facts are these: Chicago is blessed with school lands which have become obsolete for school purposes but have become valuable business property. Some of these lands are located in the heart of the city and are yielding an enormous revenue. This revenue must go into the teachers' salary fund. None of the lands can be sold without the approval of the city council.

It so happens, however, that some of the lands located in other sections of the city are idle and have become a source of loss, it is held, to the extent of several hundred thousand dollars annually. In order to obviate further loss, a bill has been introduced in the state legislature authorizing the school board to sell all unprofitable school lands without the approval of the city council. With the pressure brought for the passage of this bill is coupled the threat made by one of its sponsors that unless it is enacted into law the teachers' salaries will be cut to the extent of one-half million dollars next year.

This threat has aroused the ire of the Chicago Teachers' Federation and has set the political factors in a flutter. The motive of those who champion the bill is questioned. Harsh language is exchanged. The political effect of its passage is estimated. The real issue is submerged in bitter controversy.

But, Chicago usually does more than present a problem in school administration. It also reveals its own peculiar methods. Why should the school board, which is an appointive body, have the power to dispose of valuable property owned by the city of Chicago? Why not leave this power where the law has placed it, namely in the hands of those elected by and directly responsible to the people?

Again, why threaten the teachers of the city with a reduction in salaries if their opposition to the scheme is not withdrawn? Why not settle the land question upon its own merits, and deal with the salary question as one that is distinct from the land squabble?

In the meantime, the city of Chicago is confronted with a plain business proposition which would find ready solution in any well-organized commercial enterprise. Here, losses which can

be prevented are prevented. The unprofitable factors are eliminated. The best interests of the institution are constantly conserved.

Ordinarily we should hold that the salaries of the teachers cannot be reduced unless they are too high or the community cannot afford to pay them. Again, we should maintain that the elimination of wasteful expense receive attention before resorting to a reduction in the cost of the most essential item in school administration. But, when we deal with a Chicago school project we must exact inside facts before passing judgment on surface information. And then we wonder why true facts are withheld and why threats are indulged in.

The logic of the situation must here be, as elsewhere, that the economies involved must be fostered without impairing the efficiency of the school system. An earnest penetration into facts and conditions and sane and direct action will prove more profitable than bitter controversy over motives and superficial contentions. But, Chicago has a way of its own, and here you are!

SCHOOL NEEDS VS. TAX ABILITY.

Just as the commercial and industrial interests of the country are undergoing adjustments in conditions, so certain adjustments are now in progress in the school field. When the period of high prices and the scarcity of material and labor strained the average school treasury and rendered the laws governing them, oppressive, the unusual and irregular had to come into legitimate play.

School authorities were forced, in order to keep the schools running, to resort to methods and expediences that were not contemplated by the laws made to meet normal conditions. The school budgets were no longer adequate; tax limitations were no longer pertinent. Emergencies had arisen which had to be met, and on the whole the school authorities of the country met the situation in a courageous, man-fashion, and not only kept the schools going, but also kept them upon the highest possible plane of efficiency.

So much for what has occurred in the past. What about the present? Are retrenchments in order? Are school boards warranted in engaging in economies designed to reduce the cost of operation? The answer must be in the affirmative. The only question which can here be raised must be as to the wisdom of where and when retrenchments should and can be applied advantageously.

It stands to reason that school needs must primarily be squared with the tax ability of the community. The integrity of the school system is a first consideration. Its efficiency and service must not be impaired, but that does not mean that elimination of wasteful expense is not always in order, or that the average school system is not subject in some measure to further economies.

There are extremists in the school field as they are prevalent in other fields of activity. There are those who set no limitations to the tax revenue for school purposes and who have resorted to sharp criticism where legislators and school officers have stood for what has seemed to them an equitable apportionment of all public expenditures.

These tax limitations may have, in individual and isolated cases, wrought hardships and even injustice during an abnormal period, but on the whole they have protected the public against the extremist and against those who have lost their sense of proportion in what may be due the school interests as against the claims of other governmental agencies.

These limitations, if justly fixed, also have

the tendency to secure a maximum of service out of the moneys provided for school purposes. The necessity of observing economy frequently has a sobering effect and brings the elements of expediency and ingenuity into play rather than encourage wasteful struggles for more money and devising new methods of expending the same.

Retrenchments are matters of local conditions and local concern. Whether to pare or reduce this or that item in the school budget, whether or not to enter upon a given project involving a large sum of money, or whether to curtail certain activities, must be determined in the light of local conditions. High standards of efficiency must be aimed at constantly, but in the attainment of such efficiency the public has the right to exact the judicious expenditure of every dollar that goes into the school system.

There are limitations to everything, and the tax ability of the community is subject to limitations which must be recognized by all who direct the expenditure of public moneys. The conscientious and capable school board will know exactly how far to go in accomplishing desired educational results without straining the sources of support beyond a reasonable ability to provide that support.

FUNCTION OF THE SCHOOL BOARD.

During the period of high cost, teacher shortage and general loosening of disciplinary relations throughout the land, the scope and function of school administrative bodies came under serious consideration. The professional forces sought greater latitude of action by invading the domain of the established administration. In the interest of expediency concessions were here and there granted and many school boards became wobbly in defining their own scope and function.

But, a stiffening process is on. School officers stand up more boldly in asserting authority and subjecting the forces under them to the service of the child—the one great interest to be subserved. A mid-west editor who has sensed the tendency of recent years exclaims:

"A directorate that, because of lethargy or laziness or submission to outside influence, fails to do the directing, and exhibits a gelatinous quality of backbone toward, say, a pushing and masterful school superintendent, or of any of those whom it is constituted to direct, is not worth its salt as a directorate."

It becomes a mere wobbling fifth wheel to the coach. The public must protest against any tendency or disposition anywhere to reduce the school board to that abject condition, whether by political duress or misinformed popular clamor, or by the election to the board of persons whose judgment and action on school questions is mortgaged in advance.

We do not want school 'directors' who are the directed tools of this or that special interest or the puppets of a party, nor a school directorate made up of groups of human sheep drilled to trail along after the bell wether and to scuttle into line when the political or other collic snaps at their heels."

The soviet spirit which had crept into all channels where authority and obedience must be observed in the interest of all concerned, found its way also into the school field. The disciplinary alignment had in many instances become weakened if not disjointed. Too many people were dissatisfied with their jobs and found fault with those in authority.

A school board member, restive under the attacks of a false spirit manifested by a fraction of his community, announces his creed as follows: "I want to serve the children first, the teachers second, and the taxpayers last." Here

is a challenge to those who attempt to minimize the true function of school administrative bodies.

Mr. Anning S. Prall, in accepting the reelection of the presidency of the New York City Board of Education, recently declared: "This board has not been, nor will it be, a rubber stamp for one man or for seven men." This is another declaration in the direction of self-assertion and an adherence to normal standards in scope and function along school administrative lines.

Whatever may be said by way of comment on the tendency towards a stricter adherence to inherent authority and a wise exercise of the same, it only follows that just as normalcy is finding its way back into all the activities of life so it will find full and effective expression in the field of school administration.

EXIT CLAXTON—ENTER TIGERT.

The announcement that Dr. P. P. Claxton had been dismissed as United States Commissioner of Education and that he had been succeeded by Prof. J. J. Tigert comes in some quarters like thunderclap out of a clear sky. The fact that Dr. Claxton was slated for retirement was not generally known and the further fact that Professor Tigert was in training for the position was also kept under cover.

The change is susceptible of comment, not so much in that a known educator is succeeded by one who is less known, that the commissionership is again conferred upon the South, or that a peculiar suddenness attends the change, as it is for the awkward position in which it places certain educational leaders of the country.

Let us assume that Claxton has rendered the country a valuable service and that Tigert promises to do so. The champions of a Department of Education with a Secretary in the President's cabinet have decried politics in the appointment of educational commissioners. They were upheld by the traditions of the office. Dr. Wm. T. Harris was appointed and reappointed by Presidents whose political faith he did not share. Likewise was Claxton retained as Commissioner of Education through varying administrations.

Now we come to the proposed innovation of a Secretary of the Department of Education. Can he be expected to serve undisturbedly through Republican as well as Democratic administrations? Will not every change in the administration at Washington cause a change in the office of the Secretary of Education? And will it mean the elevation of a deserving educator or a deserving party leader?

We leave the answer to the champions of the Towner-Sterling bill who hold that this document will give "education primary recognition" and "recognized leadership," in that it creates a department of education with a Secretary in the President's Cabinet.

In the same breath these champions now state that the dropping of Claxton "will be deplored by the friends of education throughout the Nation. It is most unfortunate," they continue, "that a change should be made at this time when the need for recognized national leadership in education is imperative. It is certain to be construed as having been determined by political motives and in total disregard of the growing demand for the elevation of the Nation's chief educational office."

Now, then, if it can be charged that political motives actuated President Harding in disregarding the educational interests of the country, and what is more, ignore the traditions of the past as to a nonpartisan educational commissionership, what will the Presidents of the future do with this office? If the champions of a Department of Education, with a Secretary

in the President's Cabinet, resent changes in that office on political lines now, what will they do in the future when such changes will more likely be the order of the day?

The question is whether the Towner-Sterling champions, who are seeking to promote the cause of education through the elevation of true educational leadership, are not in fact inviting the recognition of political motives in the Secretaryship to be created. Are they not getting exactly what they are striving for, and then complain prematurely because they are getting what they asked for?

WHERE ARE EDUCATORS CREATED?

Are the educators of the land produced in city or country? Where does the rank and file of the teaching profession come from? Does every community produce teachers in the ratio that it employs them?

It would require indeed an exhaustive study to answer these questions accurately and completely. Nor, can it make much difference to the school interests of the country at large whether the origin of the teaching forces be definitely traced or not. But, it may be well to know what conditions and surroundings are conducive to the production of professional workers.

The head of the London Teachers' Association laments that London does not produce great men. "I cannot think," he says, "of any leading statesman who is a Londoner by birth and training, nor of any great preacher who boasts of his London birth. Our master journalists and the men who own the press are not Londoners. Our great novelists, our musicians, the controllers of our big drapers' establishments, all come from outside London."

Undoubtedly, what applies to London applies with equal force to New York, Chicago and San Francisco. Whether great men are produced in large or small cities or on farms can matter less to the welfare of the nation than to know that the conditions favorable to their production must be alike in all parts of the country. At least, the educational opportunities necessary for a useful career must be open to all alike whether they be in the city or the country.

As to the rearing of educators, it must be said that the cities are woefully behind. In other words, the strong educators of the country do not, and never have, come from the large cities. They come from the rural districts. But, this is answered in the fact that commerce, finance and industry, rather than professional activities such as the law, medicine or teaching, attract the city-bred people.

The rural districts, on the other hand, offer fewer opportunities for business careers, and the young man of the farm or the village is likely to follow the lines of least resistance and enter a professional career. By degrees they drift from the smaller to the larger units of population and are promoted from the narrower to the larger fields of action. This does not involve the question of equal educational opportunity in city or country, nor does it mean that the farm lad is primarily better equipped either physically or mentally for the race of life than the city-bred boy. It can, at best, only mean that each seeks to realize the opportunities that lie nearest to him and that give the greater promise of a useful career. The country environment may be conducive to concentration and the city surroundings to distraction, but after all immediate opportunity usually determines the careers which men select for themselves.

The American educator of today is a product of the village and the farm, and a good product

at that. The simple life behind him, the escape from city distractions, and the ambition to migrate from the smaller to the larger fields of service have made him wholesome, virile and useful.

THE ADVENT OF COMMISSIONER TIGERT.

A schoolmaster-soldier has been elevated to the United States Commissionership of Education. The man chosen rendered some services in a state educational institution but owes his present distinction, it is said, more directly to his services as a psychologist in the army.

As a factor in the field of popular education he is unknown. Few of the great rank and file of schoolroom workers in the United States ever heard of Professor J. J. Tigert of the University of Kentucky, or are in any way familiar with his services as an army officer.

But, be that as it may, Prof. Tigert has been chosen by President Harding as the United States Commissioner and will hold the office until some future President selects someone else. He holds the office and will unquestionably fill the same to the best of his ability. If he is not a distinguished educator, in the common school field and known to the nation as such, he may have rendered a distinguished service to the nation as an army officer, known at least to President Harding and his immediate advisors.

In the light of the traditions of the high office he has accepted, Commissioner Tigert faces a peculiar situation. His distinguished predecessors, Harris, Brown and Claxton, had a long record of services in the cause of popular education behind them when they entered upon the commissionership. Tigert has no such record. He is an unknown college professor whose reward was earned outside of the field of popular education. No doubt, the Strayers, Bagleys, McGills, Winships, Crabtrees, Hunters, and other great leaders held their breath when they learned of the appointment.

But, they must accept him and do this graciously and gracefully. Commissioner Tigert may possess elements of strength hitherto unfolded. The modest professor of psychology may possess the elements of great leadership which will come to the surface when the occasion demands. At least, he must have a chance to demonstrate his worth, and in doing so should have the hearty cooperation of the schoolmen of the country behind him.

On the other hand, Commissioner Tigert must realize that he has a great task before him, that his record as an educational leader is still to be made, and that the country will accept him if he deserves to be accepted. The cause which he serves is greater than the man or any set of men.

In this spirit we greet the new Commissioner, promise him our good-will and cooperation, and wish him God-speed in the splendid mission he has assumed in behalf of the progress of America's system of popular education.

CHANGES IN ADDRESS.

Readers who will change their addresses temporarily for the vacation months or permanently for the coming school year are earnestly requested to notify the Circulation Department of the SCHOOL BOARD JOURNAL.

The exact forms of both the old and new addresses invariably should be stated so that prompt and accurate mailing service may be continued. It should be remembered that complaints for non-receipt of subscribers' copies cannot be honored unless made within fifteen days after date of issue.



UNIFORM CHILD ACCOUNTING TERMINOLOGY.

The Inter-City Conference of Superintendents which is composed of the superintendents of schools of nine of the larger cities including Pittsburgh, Cincinnati, Cleveland, Detroit, Buffalo, Milwaukee, Indianapolis, Chicago and New York, has recently worked out a child accounting terminology which is proposed for general acceptance. The nine cities represented have agreed to introduce the terminology as the first step toward keeping uniform and comparable educational records in the larger cities.

The Conference will eliminate the temporary "lefts" in order to secure a true attendance curve. This policy has been in effect in St. Louis, New York and Detroit for some years. Chicago and Cleveland have been contemplating it for some time, and the remaining three cities of the Conference are ready to make the change.

The following is the terminology recommended by the Conference as reported in the Detroit Educational Bulletin:

Registration or Enrollment.

Registration or enrollment shall designate the first entry of a child in the public school system during the current semester, term or quarter, and shall be recorded at the first session the child is in school. Registration is an increasing number which cannot be diminished.

Received by Transfer.

Pupils may be received by transfer from schools within the city, (or if a county, state, or other unit of organization exists, from schools within the territory). These shall not be added to registration.

Transfers and Losses (Lefts)

This item shall include transfers and losses to other educational institutions or permanent withdrawals from the system.

Permanent withdrawals shall include all pupils discharged to institutions, discharged by reason of employment permit, discharged on account of marriage, or on account of death, all discharges of over and under legal age pupils, discharges by high school graduation, discharges to another school corporation, permanent expulsion of pupils over legal age, or mental incompetency.

A pupil is to be considered as a member of a school until he is known to have been permanently discharged by reason of death, removal from the district, or been discharged as a result of having fulfilled the requirements of the compulsory education laws. It is understood there shall be no temporary withdrawals.

Membership

(Enrollment at date, Number Belonging or School Register.)

Membership shall be registration or enrollment plus receipts by transfers minus transfers and losses (lefts).

Total Enrollment or Original Registrations.

Total enrollment shall include every pupil who has been in attendance at any time during the year, counted only in and for the school of original registration.

Average Membership.

(Average Number Belonging or Average Daily Register.)

Average membership shall be the aggregate of the daily membership for the term, semester, quarter or other period divided by the actual number of days school was in session.

Average Daily Attendance.

Shall be the aggregate of the daily attendance for the semester, term, quarter, or other period divided by the actual number of days school was in session.

Per Cent of Attendance.

This item shall be secured by dividing average attendance by average membership.

Student Hours.

A student hour may be defined as a pupil instructed for sixty minutes. It may be secured in the following manner: daily attendance times length of instruction period in clock hours.

Per Pupil Costs.

Pupil costs shall be determined upon three bases: (1) average membership; (2) average daily attendance; (3) in terms of student hours.



PAUL C. STETSON,
Dayton, Ohio.

Mr. Stetson, who was recently elected Superintendent at Dayton, has been for three years head of the School Department of the city of Muskegon, Michigan. Mr. Stetson was born June 21, 1884, at Logansport, Indiana, and received his elementary education in the public schools of Des Moines, Iowa. He holds a Bachelor's Degree from Kalamazoo College, Michigan, and a Master's Degree in education from the University of Chicago. He has had wide experience as a Supervisor and has done pioneer work in the establishment of the first junior high school at Grand Rapids, which is one of the original high schools in the United States. For some years he was principal of the South High School at Grand Rapids and more recently superintendent at Muskegon. He has been a frequent contributor to educational magazines on topics in school administration.

It is understood that the practice of computing costs upon total enrollment or registration is to be discouraged for the reason that this figure includes pupils who may have been in attendance a very short time during the term of semester. Such computations are, therefore, fallacious and misleading. It is further recommended that costs be reckoned on average daily attendance, and in terms of student hours rather than membership.

PRACTICAL RESULTS IN INTELLIGENCE TESTS.

—Prin. F. H. Pierce of the Jordan High School, at Lewiston, Me., has recently given a brief account of the use of intelligence tests on the members of the present freshman class of the high school. It shows the practical working of these tests of which Supt. Chas. W. Bickford has been one of the foremost advocates.

The tests were given by Supt. Bickford last spring when the class was in the grammar school. The results were corrected so as to show the total number of points earned by each pupil and the intelligence quotient. When making up the divisions of the freshman class during the summer, the 25 students having the highest intelligence quotient were placed in division A, the 25 next lower in intelligence rating in division B, and so with division C. On this basis the entire class of 165 pupils was divided into three college preparatory and three commercial divisions.

Judging from the work of the first half year the experiment has proven successful. The teachers of the freshman divisions state that progress individually, within the divisions, has been noticeably more uniform and the number of failures fewer than under the old system of haphazard divisioning.

Under the plan, any pupil who outstrips his division in intelligence growth is promptly changed to a division higher in the scale. The pupils do not know how the divisions are graded. The teachers are able to accurately place the divisions in the order of the intelligence tests through their experience with them. The success of the plan is taken to mean that the divisioning of the school on the basis of these tests will be continued.

SCHOOL POLICIES FOR 1921.

The Arizona Superintendents' Association recently adopted a series of resolutions to indicate the policy which the members consider necessary in meeting the present critical situation in the schools.

The superintendents make the following recommendations:

1. That the ensuing school year is not suited for the introduction of any new or unusual features involving additional expenditures.
2. That the organization of vocational and

other classes for a small number of students should be discouraged.

3. Schools are urged to purchase only the minimum amount of school supplies and use the most scrupulous care in their distribution and use.

4. Teachers are expected to bear their share of the burden during this crisis by rendering additional service in longer hours or larger and more classes.

5. Teachers' salaries should be readjusted on the basis of merit and experience.

a. Salary schedules for teachers in Arizona should be arranged with the view of encouraging the better type of teacher to remain in the State thus reducing migratory tendencies.

b. School officials should, therefore, maintain a graduated schedule designed to give teachers increases extending over a period of years and based on merit.

c. The granting of full recognition of years of service in other schools should be discouraged as a matter of justice to the teacher who remains within the system.

d. School officials should consider it a matter of professional ethics and courtesy not to engage teachers who have served but one year in other school systems unless unusual circumstances justify.

e. School officials should exercise greater care in recommending teachers as candidates to other officials, avoiding ambiguous terms and eloquent English.

They should deem it a breach of professional ethics to write general recommendations.

f. The minimum salary for grade teachers should be sufficient to give the teacher a thrift wage. This is dependent upon varying conditions of living throughout the state. A minimum wage of \$1200 is recommended by the National Education Association.

g. Increases should be given sparingly at this critical period.

Teachers must have shown real meritorious service to be entitled to the same.

NEWS FOR BUSY SUPERINTENDENTS.

—Akron, O. The taking of the permanent school census of the city has been undertaken by Mr. R. H. Waterhouse. Teachers in the 28 school buildings visited each house in their district, requesting the required information. The work is to be continued through the summer months by the attendance department.

—The public school system of Bozeman, Mont., has been steadily growing and improving during the past few years and it has now come to the front rank among the school systems of the cities of the Far West.

A junior high school has been established and a fine new building erected for its use. Each year has shown a marked growth in both the junior high and senior high schools. It is estimated that the present Gallatin County High School will be outgrown in a very short time and that it will then be necessary to erect a new building to meet present needs.

The progressive spirit of the community and the liberal attitude of the citizens toward the public schools indicates the attitude which the taxpayers will assume when steps are taken to provide additional funds for an up-to-date school system.

At the recent commencement exercises of the junior high school, a class of 104, the largest number ever graduated from the grades, received diplomas admitting them into the senior high school. It is interesting to note that the class was composed of 56 boys and 48 girls.

—Governor McCray of Indiana has appointed a commission of five to conduct a survey of the public schools of the state. The survey is to cover seven points, principal among which are those having a bearing on the large state schools and the preparation of laws revising the state school system.

—Hudson, S. D. A summer school of six weeks will be conducted by the school board. The school offers an opportunity to students to make up work in which they have failed during the school term.

—Springfield, Mo. The school board has reopened the summer school which has been successfully conducted during the past three summers. The school will be in session four weeks.

—Lima, O. The school board, in cooperation with the local Rotary Club, has inaugurated school training for crippled children. Children who are not badly afflicted are to be sent to the grade schools and those who cannot attend school will be taught in their homes by expert teachers.



SCHOOL COSTS OF THE UNITED STATES.

—Statistical tables compiled by the United States Bureau of Education show that while expenditures for public education may seem large, they are in reality small compared with expenditures for other purposes, public and private, and with the number of children to be educated.

Just how much do we pay for the education of 27,000,000 boys and girls between the ages of 6 and 19, says the Bureau. It should be remembered that the figures include not only the cost of instruction, but also the expenditures for buildings, grounds, equipment, repairs, fuel, and all incidentals, including in many cities and states books and supplies.

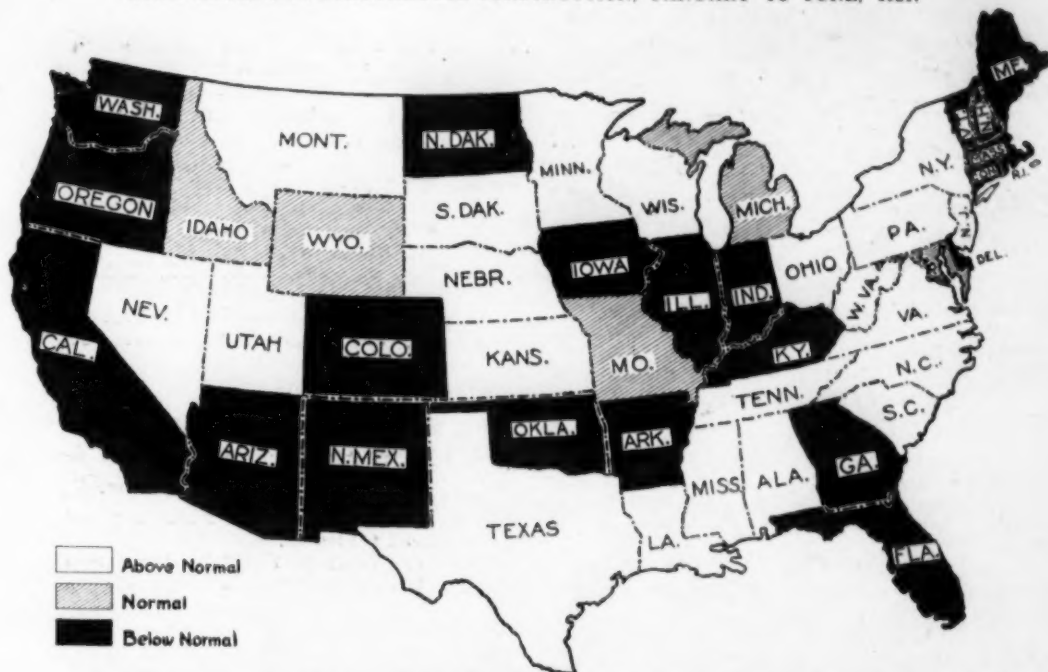
The range of cost is from \$63 per individual person in Alabama and Mississippi to \$637 in Montana, the latter being almost exactly ten times that of Alabama and Mississippi. The average for the United States is only \$252, while New York is thirty-fourth with \$367.

The Bureau points out that while the authorities have expended \$252 for the education of each child, only \$175 of this amount has been spent for actual instruction. The complaint is frequently made that the instruction and training of the boys and girls who leave the schools is not as extensive and thorough as it should be. What can we expect for \$175?

For the generation of boys and girls reaching the age of high school graduation in 1906, the average per capita was \$140. For the elementary and secondary education of millions of men and women in the country now between the ages of 21 and 35, the average paid was \$200.

One table of the Bureau shows what would be spent on the average for the education of each child of those two and one-quarter millions who reached the school age of six years in 1918, if the average expenditures for that year are continued until 1931 when these boys and girls have reached the normal age of graduation from the high school. In only one state will the amount be less than \$100, and the average for the United States will be \$359.

Another table shows how much at the rate of expenditures in 1918 will be paid for all education—elementary, secondary, higher, technical and professional; that is, how much will be spent on the average for all the school education of children in public elementary schools, high schools, colleges, universities, technical and professional schools of all kinds. The range is from \$111 in Mississippi to \$1,274 in Montana, and



The above map, prepared from statistics compiled from various sources, represents the issues of bonds for schoolhouse construction during the first five months of 1921. The terms "Above Normal," "Normal" and "Below Normal" are based on the bonds issued for school purposes during the last year. The total bond issues for the five months amount to \$75,667,053.

the average for the United States as a whole is \$440. New York City is listed twenty-fourth with \$537. To this should be added about \$75 for expenditures of private schools of all kinds and for special classes of children.

The grand total of \$515 represents what at the 1918 rate, the people of the country will pay on an average, for all the opportunities of education, public and private, higher and lower; for all the difference which schooling makes between a generation of illiterates lacking in all the training of the schools, and the condition we would have as the result of a continuation of the 1918 rate of expenditures for education and training in the schools. It is pointed out that the figures include the expenditures for many who will go on to higher institutions and who will get more than their share of the average in city and long term country schools. The actual amount paid for the education of a large number of children whose schooling is confined to the elementary grades and to the short term country schools, must be pitifully small.

INCREASED MUNICIPAL INDEBTEDNESS AND ITS EFFECT ON OUTSTANDING BONDS.

—The enormous increase in municipal indebtedness which is shared by school districts through the issuance of school bonds is a matter of some concern in communities where the legal

debt limit is being approached. In some states the schools are not bound by a constitutional debt limit and the school authorities have been inclined to issue bonds for desirable building projects to the extent that the voters have been willing to sanction them. The problem is a difficult one and the situation is likely to become dangerous when the commonly accepted limits are reached and when the ratio of bonds to assessed valuation of property approaches ten per cent.

An exceedingly sensible discussion of the subject was recently made by Mr. Adolph Koppel, treasurer of the Central Savings Bank of New York City, before the Savings Bank Association of the state of New York. Mr. Koppel said in part:

The effect of increased municipal indebtedness by new issues of bonds depends largely on conditions of demand for investments of this character, and of the conditions and purposes and general credit of the municipality making new issues of bonds.

Municipalities in one of our neighboring States are said to have issued bonds in amounts exceeding ten per cent of their assessed valuation. These bonds have ceased to be legal for investments for the savings banks in the State of New York. As a result the market value of our present holdings of the bonds of such municipalities has decreased, and new issues will be more difficult to place and only at a higher interest rate than bonds legal for our savings banks.

Increased municipal issues may be justified and explained by rapid growth of municipalities and resulting need of improvements which cannot be met by direct taxation and assessment and for which, therefore, bonds must be issued. Such issues—provided they do not exceed the legal debt limit—have so far found a ready market without perceptibly affecting the value of our present holdings.

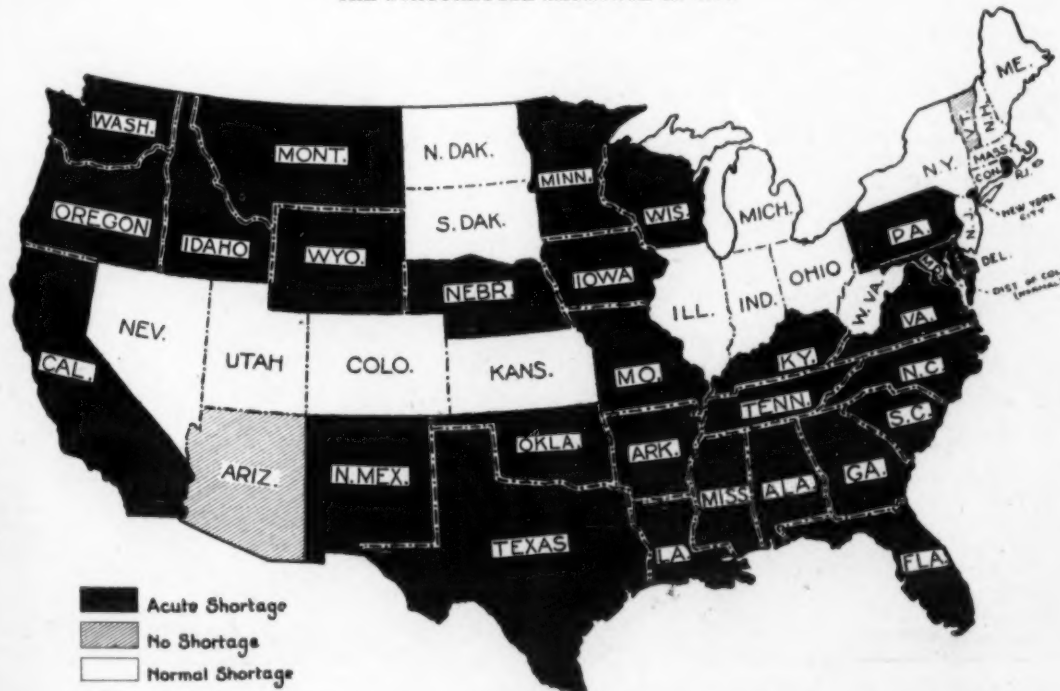
We are faced today with the phenomenon, and a phenomenon it is, that bonds of our municipalities are selling at relatively higher rates—that is—bringing lower interest returns than the premier security of the world, the bonds of the United States. The cause of this we know to be the privilege of federal income tax exemption of all holdings of municipal bond issues. Bonds issued by municipalities in New York State enjoy in addition exemption from our State income tax.

These tax exemptions have created a relatively new market for our municipal bond issues. Corporations, estates and individuals of large incomes who formerly would not invest in these bonds have largely absorbed new issues of municipal bonds and it is owing to these purchases that the market for municipal bond issues has been well maintained so far.

Another factor contributing to this state of facts is the competition by bankers dealing in municipal bonds, outbidding each other in their efforts to obtain control of new bond issues. The investor—in the final analysis—has to pay for this competition. But only as long as the banker

(Continued on Page 127)

THE SCHOOLHOUSE SHORTAGE IN 1921.



The above map, which represents the shortage of sittings in schools, has been compiled from a great variety of reports received from superintendents, school board authorities, and other first hand sources of information. The reports indicate that the shortage is still acute in a majority of the states and that only in Arizona and Vermont is there no shortage whatever. The states in white represent normal increases in school population, and a normal growth in schoolroom space.



RULES AND REGULATIONS FOR JANITORIAL SERVICE.

Mr. G. E. Haak, Superintendent of the Department of Buildings and Supplies for the city of Scranton, Pa., has recently worked out a complete set of rules and regulations to govern the janitorial force of the schools. The rules are of considerable interest in that they constitute not only rules which the board of education enforces, but also in that they are a manual to guide the janitor in his work, in his conduct, and in his relations to the board, the teachers and the pupils. Before presenting the rules, Mr. Haak addresses a word of advice to the janitors. He writes:

To Janitors:

This book is a manual for your use. It is intended to help you in your work. It may be changed from time to time, as conditions change, or as improved methods are developed.

The work entrusted to you is very important. The health, as well as the comfort, of teachers and pupils depends largely upon how well your work is done. The reputation of the school depends a good deal upon the impression that visitors get from the appearance of the building when they visit the school, and upon the appearance of the yard to passers-by. Your life among the children is important; and you, as well as the teachers, will leave your influence upon the boys and girls.

Your work is under the immediate direction of your principal. Teachers, too, will have small tasks which you are asked to do, if they be within reason.

This Department wants to help you to do your work so that you will get the very best results with the greatest economy of effort. To this end, this manual has been prepared. You yourself must plan and use judgment in many things. The ideal to work for is a clean, wholesome and attractive school building, the best we can make

them. No manual can cover all of the things you do in bringing about such a result, but it can help by suggestion and direction.

G. E. Haak, Superintendent.
Department Buildings & Supplies.

SUGGESTIONS.

Some Things That Can Be Done During School Hours.

- Cleaning yard.
- Cleaning sidewalks.
- Cleaning drinking fountains.
- Cleaning washbowls.
- Cleaning windows, woodwork, light fixtures and bulbs in halls.
- Cleaning stairs and washing handrails.
- Cleaning or whitewashing boiler room and basement.
- Cleaning boys' toilet rooms.

NOTE.

It is understood, of course, that in no case are fires to be neglected in winter time to do other work.

By planning your work through the day, you can save time and labor. Here is where your management comes in.

Keep your building ready for inspection at all times.

Appointment.

Persons seeking employment as janitors shall make application to Superintendent of Buildings and Supplies. When there is an opening, names of applicants for said opening shall be presented to the Building Committee, which Committee shall by resolution recommend to the Board as a whole, an applicant to fill the position.

Janitors' Pension Fund.

All janitors regularly employed by the School District since July 18, 1917, are compelled to join the Retirement Association. The rate of contribution to said Association is determined by the age of the contributor; and a membership in the Retirement Association entitles a member to retire at the age of sixty-two, if he so wishes; retirement is compulsory at the age of seventy, but no employee is required to contribute to the Retirement Fund after the age of sixty-two. Further particulars in regard to the Retirement Association may be had upon application to the office of the Secretary of the School Board.

Salary.

Salary of janitors is payable monthly on the first day; and janitors are paid in accordance

with the schedule of Superintendent of Buildings and Supplies for their regular work.

Janitors receive extra compensation for night school work, also in accordance with schedule of Superintendent of Buildings and Supplies.

In case of absence of janitor, due to any unavoidable reason, the School District will furnish a substitute; provided, however, time over regular eight hours of said substitute, be deducted from the salary of the janitor at the rate paid substitute for said overtime.

Superintendent of Buildings and Supplies is empowered, at any time, to deduct from janitors' salary, the sum of five per cent of total, for the reason of lack of efficiency or failure on part of janitor to perform his duties up to the standard required.

Resignation.

Janitors sending in resignations during the school term are required to give the Board of School Directors ten days' written notice, prior to date such resignation is to go into effect; in the event of failure of said janitor to give the required notice, an amount equal to ten days' salary or compensation shall be retained by the School District as liquidated damages. (By resolution of Building Committee adopted by Board December 3, 1917.)

Address.

Every janitor shall see that his proper name and address, and the number of his telephone or the nearest telephone by which a message may be delivered to him in case of necessity, is on file at the office of Superintendent of Buildings and Supplies, and shall notify said office of any change of address or telephone number.

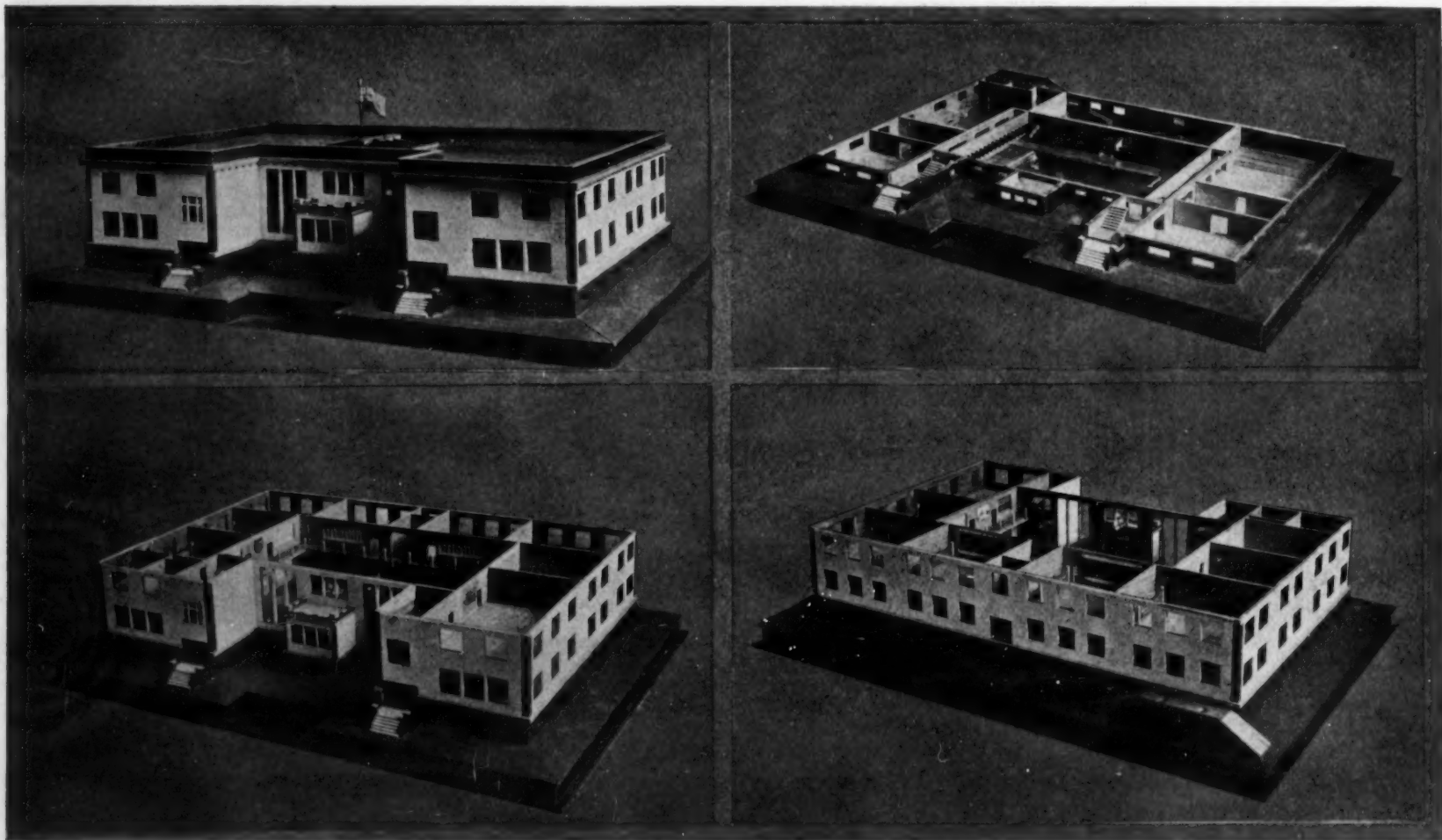
There should be furnished and maintained at all times at the main entrance of each school building a sign giving the name and residence of the janitor in charge, such sign to be of a design furnished by the Board of Education.

Conduct.

No smoking or chewing of tobacco in or about the building or premises will be allowed.

The use of intoxicants while on or about the school premises is strictly prohibited. Any employee found to be under the influence of intoxicants while on duty or on school premises, or who is an habitual user of intoxicants or who frequents places where intoxicants are sold will be subject to summary dismissal.

(Continued on Page 64)



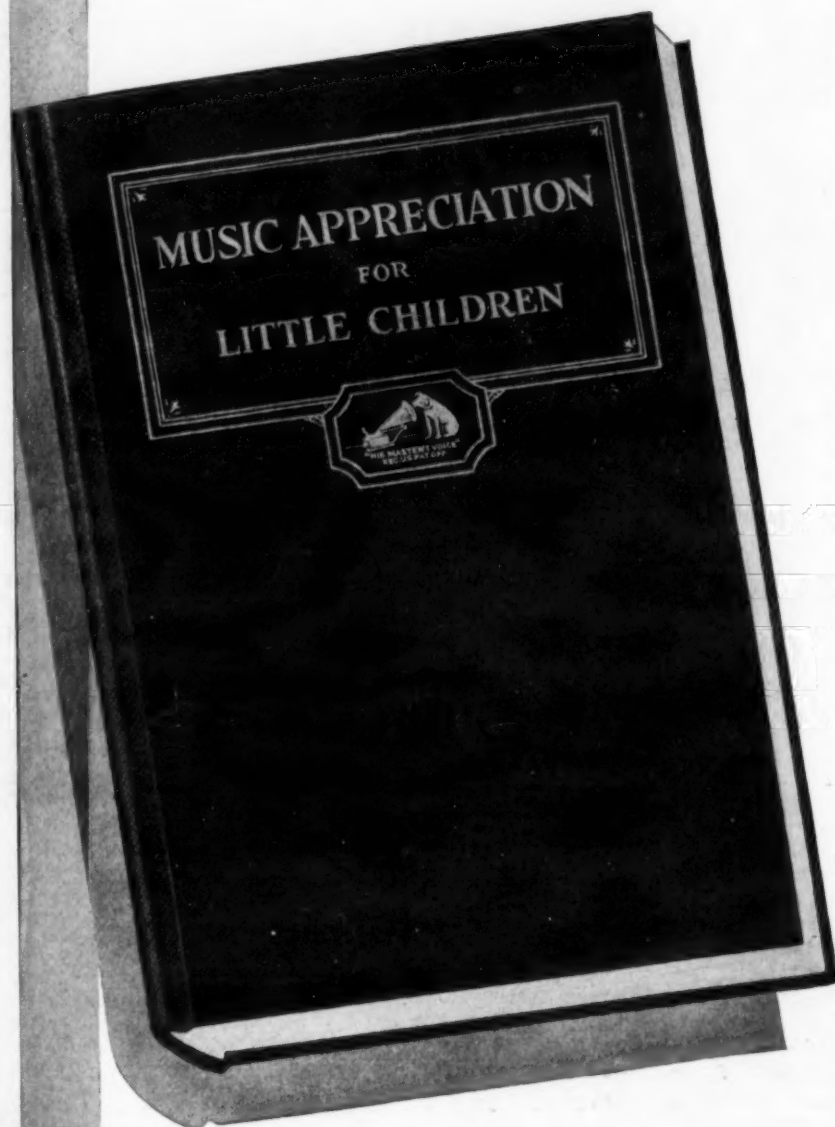
A MODEL OF A MODEL SCHOOLHOUSE.

The illustrations above represent an interesting scheme for proving the validity of a suggestion for an economic school building plan. The plan for this building was drawn by A. J. Rostance, Esq., teacher of manual training in the Essex School, Toronto, Ontario. The plan is for a two-story, sixteen classroom building, to include the following features in addition to the standard classrooms: (1) An auditorium which is in itself an art gallery, lecture hall and drill hall, museum, etc. (98' x 55'); (2) a gymnasium (78' x 28'); (3) a swimming pool (60' x 25') in a room (86' x 55'); (4) a principal's office in the center of the system.

The building is arranged for efficiency in administration, economy of space and adaptability to modification, enlargement and improvement. It is practically without corridors except for the enclosed stair wells and the balcony on the second floor. The central section of the building which extends through the first and second stories is intended to serve as an auditorium and as a means of communication.

The model is made of wood and, as can be seen from the illustration, can be taken apart so that the exact arrangement and the relations of the several rooms can be studied.

The key to the child's wonder-world of real music— "Music Appreciation for Little Children"



—for *Little Folks Everywhere*
—for *the Mother in the Home*
—for *the Teacher in the Kindergarten,
Classroom, Conservatory and Studio*

A pioneer work in the
fascinating field of using
music in early childhood

177 pages. 6 four-color illustrations from masterpieces of painting. 70 illustrations in line drawing, half-tone, notation, etc. Handsomely bound in cloth, stamped in gold. List price \$1.00 (15c additional by mail).

It takes *three* to make music

- one to create
- one to perform
- one to listen

Few children will ever become creators or even performers. Obviously all may be *listeners*. Music is a language and should be *heard* long before reading it or writing it.

Neglect of ear training in early childhood *can never be fully made up* by any amount of musical education in later years.

Little children *learn to listen* and later *listen to learn* by means of

Incomparable Victor Records

especially made, selected and classified to meet the needs of the child during the *sensory period* (one to eight years) guided by the expert pedagogic presentation *to be found only in this charming new book*.



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This trademark and the trademarked word "Victrola" identify all our products. Look under the lid! Look on the label! VICTOR TALKING MACHINE CO. Camden, N. J.

This work is the result of years of highly specialized experience in making music a delight to little children

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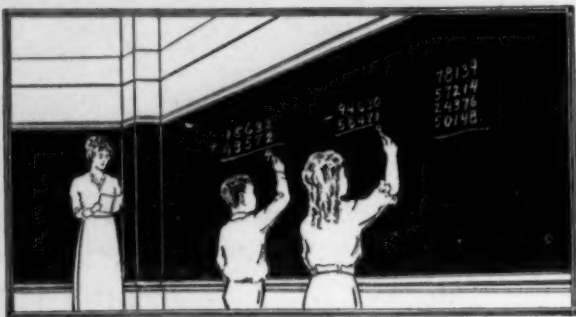
Educational Department

VICTOR TALKING MACHINE COMPANY
Camden, New Jersey

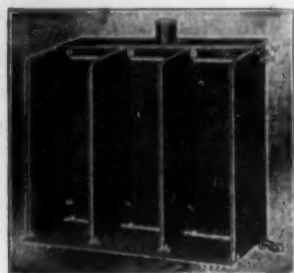
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Are Black and stay Black. The only PERFECT writing surface.

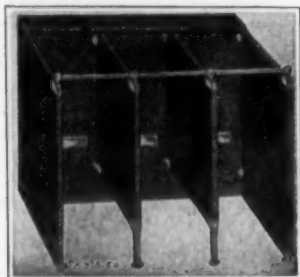
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B-11 1/2 S—Urinal



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"Nothing for Nothing" applies in every realm of effort. But the man who makes an unwise purchase buys something that—like a deficit, is less than nothing; for it requires additional outlay in later years.

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from our quarries represent the acme of economy and educational efficiency. They require no upkeep, while artificial boards must be resurfaced, repaired and replaced regularly. In comparison, the word "economy" is defined in its truest sense. Slate being non-porous does not absorb anything, so cannot disintegrate. It is finished with a beautiful, velvet smooth surface that does not become gray with age or use; that makes writing a pleasure and reading a relief to the eyes of the students and teachers. That is why our Natural Slate Blackboards combine the utmost efficiency with the utmost of economy.

These are but a few of the advantages. Before you spend a dollar for Blackboards, you should read our book "How to Judge, Specify and Install Blackboards." Send for it today.

Penna. Structural Slate Co.
Worth Building Easton, Penna.

(Concluded from Page 62)

Janitors shall at all times be respectful and obliging to principals and teachers, and gentle towards pupils.

They must be cleanly about their person, and neat in appearance.

Attendance at Building.

The janitor in any school building shall be in regular attendance at the building every school day throughout the year during the hours covered by the school session and at such other hours necessary to perform duties governing the respective school buildings; and as much earlier or later (day or night) as may be required in severe cold weather to insure the proper heating of the building at all times, and for the proper performance of his work in accordance with rules and regulations herein. Janitor must not leave building when school is in session without special permission of the principal.

Janitorial attendance will not be required, nor shall school buildings be occupied on Sundays or holidays, except for special reasons as covered in the preceding paragraph.

Janitor shall remain at building up to noon, and as much longer as his duties require, on Saturdays.

Janitors are entitled to two weeks' vacation every year, a notice of which must be given the Superintendent of Buildings and Supplies, so that any work arranged for in respective school building may be properly looked after.

Responsibilities.

The janitor shall have general supervision of, and be directly responsible for, the protection and preservation of the school building committed to his charge, and the contents thereof; and for the care and condition of the grounds and sidewalks connected with the premises, and shall take every possible precaution for the care, safety, upkeep and maintenance of the school property, and shall provide as far as practicable against damage to any part thereof arising from the use or non-use of the same.

He shall be responsible for all damage done to the buildings, grounds, fences and other property contained in or about the same, occasioned by his misconduct, carelessness or neglect, or that of his assistants.

The janitor shall be held responsible for articles missing during summer months.

CARE OF GROUNDS AND WALKS.

Grass in Crevices.

Janitors shall see that no grass or weeds are permitted to grow in the crevices of paved yards and walks, and that no dirt is allowed to accumulate under lower fence rail. Upon requisition, the janitor will receive a preparation for killing weeds between stone walls and sidewalks, which should be used very carefully according to instructions. This weed killer is poison and should be handled accordingly.

Shrubbery and Plants.

All planted ground should be weeded regularly, and kept in a neat condition; and the earth around shrubbery and other plants should be spaded up as often as necessary and at least once each season.

The grass on all school lawns shall be cut, watered, raked, whenever necessary.

Wagon gates should be kept closed during the day when not in use, and should be locked at night.

No waste paper or refuse of any kind should be allowed to remain in the yard, and the yard should at no time appear littered.

Walks.

All sidewalks and paved yards shall be swept as often as is required to keep them in good condition and at least twice each week.

After a snowstorm, a path is to be cleared on all walks and steps in and about the school premises, as early as possible, so as to provide access to the several entrances to the buildings.

All snow and ice must be removed from steps, fire escapes, entrances and inside and outside walks of the school premises before 12 o'clock noon of the same day the storm occurs.

Janitors shall sprinkle sand or ashes or salt upon sidewalks when they are in a slippery condition; a supply of these articles to be kept on hand for this purpose.

CLEANING AND CARE OF SCHOOL BUILDING.

Each janitor shall be responsible for the cleanliness of his building, and must be observant of dirt, dust and bad odors and see that same

are removed without having special attention constantly called thereto. A good janitor can see dust and dirt where other folks would not even think of looking for it.

Sweeping.

In order that the school building may be properly cleaned, janitors are to be permitted by the Principal to begin their schoolroom cleaning not later than twenty minutes after the close of the afternoon session and fifteen minutes after night school session.

Under no circumstances is there to be any sweeping done while schools are in session, with the exception of corridors and stairs, except by permission of the Principal of the school.

The entire school building must be carefully and thoroughly swept each school day. In rooms where night school is held, the janitor should pick up all waste paper from floor, and see that rooms are in a neat condition before the opening of night session; the sweeping of these rooms to be reserved until after the night session.

Special sweeping compound furnished by the Board of Education shall be used when sweeping.

Dusting.

Dry dusting is absolutely prohibited at all times. Special oiled dusters will be furnished for dusting.

All furniture and apparatus, window sills, woodwork, desks, etc., must be thoroughly dusted each school day.

Mopping.

All classrooms, halls and stairways shall be mopped once a month. Girls' toilet rooms shall be mopped once a week and boys' toilet rooms twice a week.

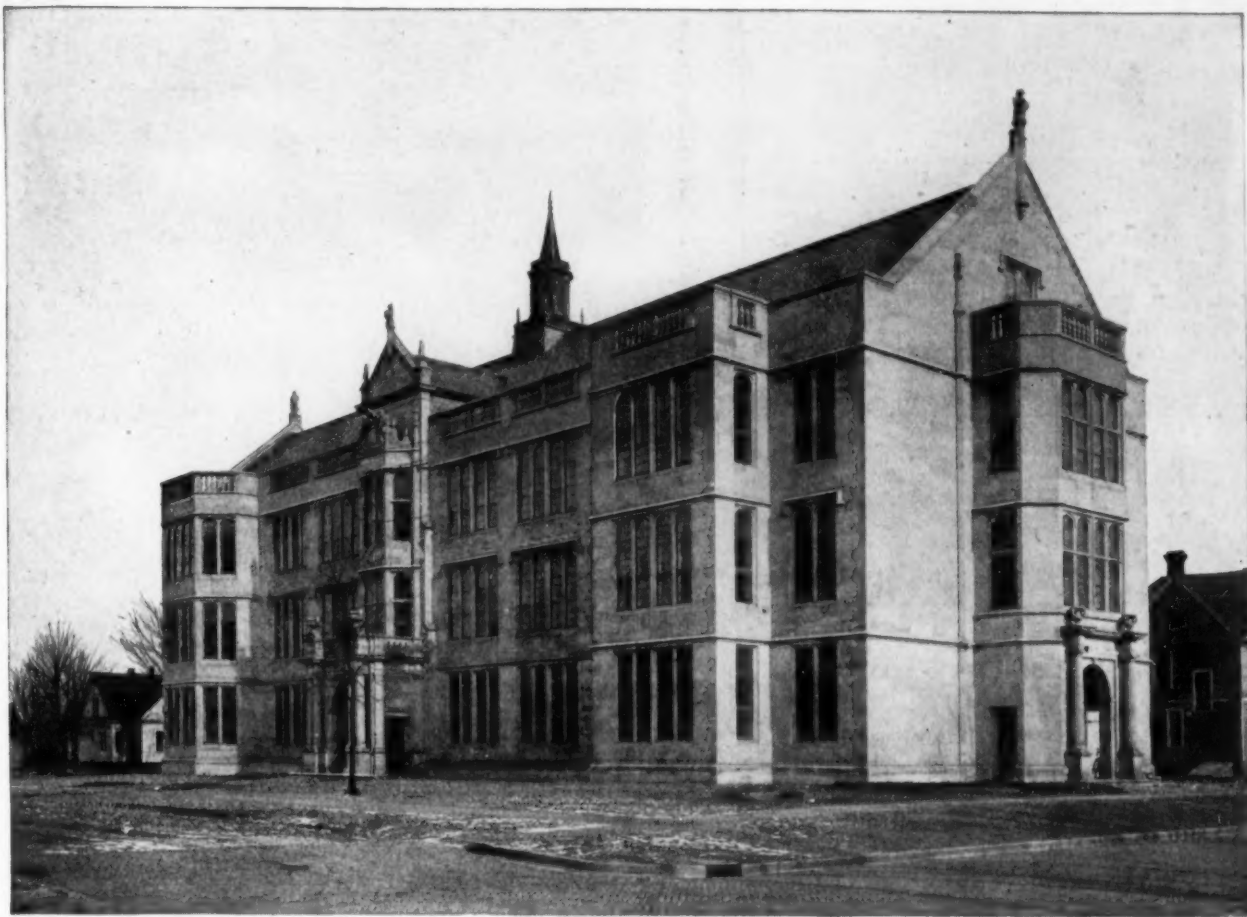
Kindergartens.

Kindergarten rooms shall be mopped and scrubbed alternately, every week or more often if necessary. In other words, kindergartens should be mopped every two weeks and scrubbed every two weeks. They should never be oiled.

Toilets.

The urinal troughs and the floors around them shall be flushed with a hose after every recess period.

(Concluded on Page 66)



*Educational Building, University of Illinois, Urbana, Ill.
Holabird & Roche, Architects, Chicago*

For School and College Construction—

Indiana Limestone combines every requisite.

*Booklets on Indiana
Limestone will be
mailed on request*

It is extremely durable and may be obtained in the following shades: Buff, Gray and Variegated. The Buff has a tone of delicate brown and ivory; the Gray is a soft, silvery shade, while the Variegated, with its subtle play of colors, is a singularly beautiful blending of Buff and Gray.

This natural stone is, in itself, so magnificent that decorative features are seldom desired in the design.

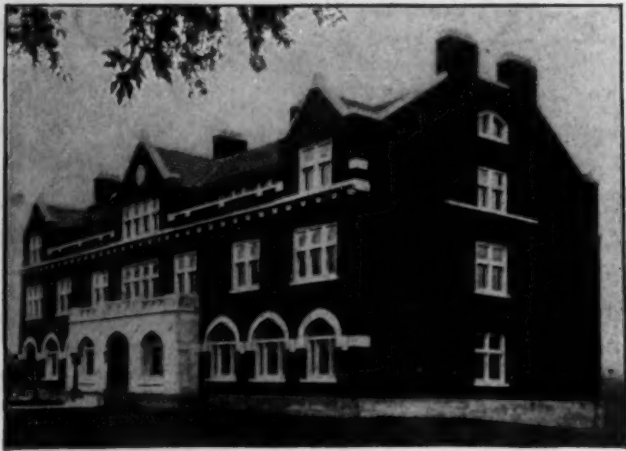
Then too, Indiana Limestone is really economical, for it necessitates no expenditure for upkeep.



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Conservatory of Music, Northfield, Minn.
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Patton, Holmes & Flinn, Architects, Chicago.

Sound Proof Music Rooms

All school-rooms need sound-proof floors and partitions, but music rooms most of all. The above building was sound-proofed with

CABOT'S QUILT

and the directors report the usual "perfect results."

Sound-proof, Decay-proof, Vermin-proof and Fire-resistant—the only material that meets all requirements.

Samples and full details on request.

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Are the SCHOOL STAIRS Safe?

After several girls were seriously injured by slipping on the marble treads of this stairway, Feralun Treads were installed as shown six years ago. Since then not a single fall has been reported.

Require Good Anti-Slip Treads

Marble, granite, slate, cement, iron and steel stair treads are notoriously unsafe. More people are killed on them than by fires and surface cars. Prevent slipping accidents. Make and keep your school stairs safe by using FERALUN Anti Slip Treads.

FERALUN —are used for floor plates, trench covers, door saddles, coalhole covers, stair treads, safety treads, ramps, etc.

AMERICAN ABRASIVE METALS CO.
Fifty Church Street, New York, N. Y.
Branches in all principal cities.

(Continued from Page 64)

All closet seats shall be kept dry and bowls flushed during school sessions.

The urinal troughs, seats of closets, fixtures and floors shall be washed and disinfected every day after school sessions, and tanks in connection with water closets must be kept free from mud and other sediment.

The water closet bowls and urinals and all partitions to urinals and backs of same shall be cleaned at least once each week with a disinfectant to be furnished by the Supply Department.

At all times a sufficient supply of toilet paper shall be kept in each toilet room, and towels wherever there is a lavatory.

Blackboards.

Janitors shall wash all blackboards and clean all chalk troughs every Saturday.

Blackboard Erasers.

Janitors are required to see that all blackboard erasers are properly cleaned in the basement of their respective buildings every day. Blackboard erasers should not be cleaned on the building.

Ink wells.

Janitors shall wash and refill ink wells with ink whenever so requested by the Principal.

Electric Globes.

Electric light globes should be kept clean at all times. A dirty globe and reflector cuts down efficiency of fixture at least twenty per cent.

Housecleaning Time.

The entire school building must be thoroughly cleaned during the summer months, as follows:

Thoroughly brush all walls and ceilings and window shades; wash all woodwork, including baseboards, wainscoting, doors, frames, sash and all other painted and varnished woodwork; thoroughly wash with water the glass in all windows, transoms, furniture, and dust all picture molding and the fronts and backs of all pictures. The floors of all entries, halls, passages, stairways, corridors, and all rooms used for school purposes and stair landings shall then be well scrubbed with scrub brushes and then mopped. After a thorough scrubbing, floor oil may be applied to classrooms and halls, excepting always kindergarten rooms.

The entire school building should also receive a general cleaning during the Christmas and Easter vacations.

Woodwork.

Woodwork is not to be cleaned by using kerosene, soap or soap powder. A tablespoonful of disinfectant per gallon of hot water will clean and disinfect at the same time.

Floor Oil.

Floors should always be thoroughly scrubbed before applying floor oil—not mopped—whether previously oiled or not. One gallon of floor dressing when properly applied should cover about five hundred square feet. Floor oil should be applied with patent floor oilers, or when these are not obtainable, with an old clipped floor brush, washed out and cleaned before using. Floor oil should never be applied with a mop, as this not only wastes the oil, but spatters the baseboard, and it is not possible to apply it evenly with a mop.

Door Knobs and Hand Rails.

Door knobs, hand rails and banisters of stairs shall be washed at least twice a month with a disinfectant to be furnished by the Supply Department.

Janitor should not use too much disinfectant. A tablespoonful per gallon of water will give a germ-free and dirt-free building.

Boiler Room, Engine Room, Fresh Air Shafts.

During the winter months the boiler room, engine room and inside of all fresh air shafts are to be whitewashed.

Air ducts and vent ducts should be cleaned at least once a week.

Care of Tools, Supplies and Other Equipment.

Janitors are responsible for the tools and other supplies in their school, and janitors should practice care in the handling of tools and economy in the use of supplies; not, however, at the expense of efficiency.

Brushes.

Bristle floor brushes are hard to secure, and when not in use they should be hung clear of the floor. To allow the brushes to set on the bristles materially reduces the life of the brush. Other tools should be handled with similar care.

Shades.

Janitors should give special attention to window shades. The life of a shade depends upon how well it is taken care of. They must not flop in the wind, and should be equipped with cords. Your building will look better on Sundays and during summer if you will have all shades hung straight and to the same height.

Electric Light Bulbs.

When putting in new electric light bulbs, janitors shall place on every bulb, a label with the date of installation on same, and when light is burned out, janitor shall also write on label the date burned out; he shall return to Supply Room all burned-out lamps once a month.

Worn-Out Tools.

Janitors shall at no time destroy any worn-out tools or equipment of any nature. All such material when too worn for future use shall be returned to the Supply Room. Janitor may turn this material over to the truck driver when he is making deliveries to building.

REPAIR WORK AT BUILDING.

By Janitor.

As a part of their regular duties, janitors are expected to make all reasonable minor repairs, materials to be furnished by Supply Department upon requisition. Janitors shall adjust adjustable furniture upon request of Principal.

The janitor shall at no time order any repairs incurring expense to the Board.

In case repairs are necessary beyond janitor's ability to make, he shall immediately report the necessity thereof to the office of the Superintendent of Buildings and Supplies.

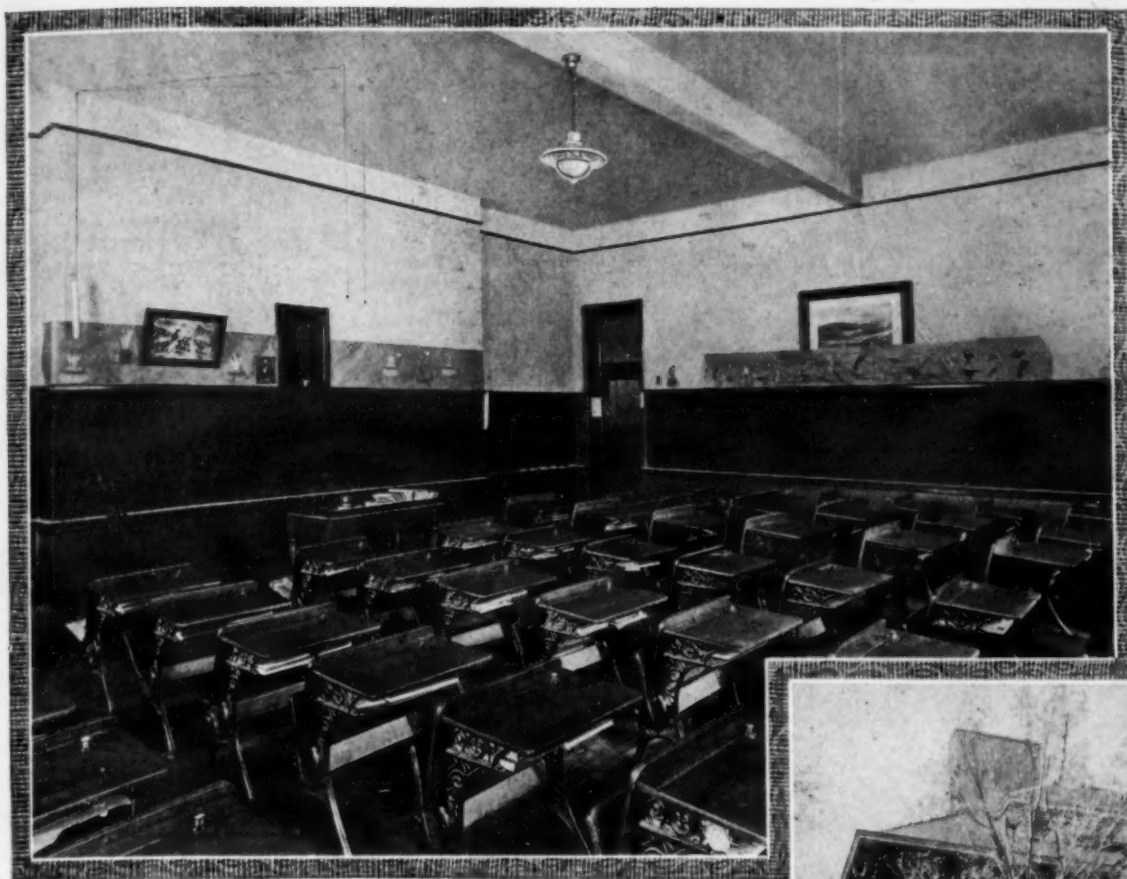
By Employees of Board.

When regular employees of the Board perform any work at school building, janitor shall see that their time slip is made out correctly as to time at building before signing. Janitor must not sign this slip before men are ready to leave building, and should never sign a blank slip.

By Outside Men.

When work is done by other than School Board employees, janitors shall keep an accurate record of the time they are at the building, and when job is completed, shall send a report of said work.

(Concluded on Page 70)



A typical small school — The Central School Building of Havana, Illinois, and one of the class rooms lighted with a 300-watt Denzar. The Harsman Electric Shop of Havana made the installation.

DENZAR

The Unit of Day Brightness

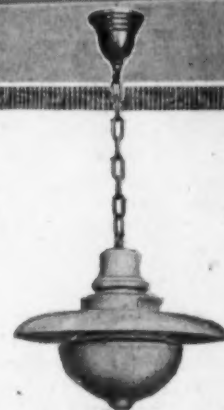
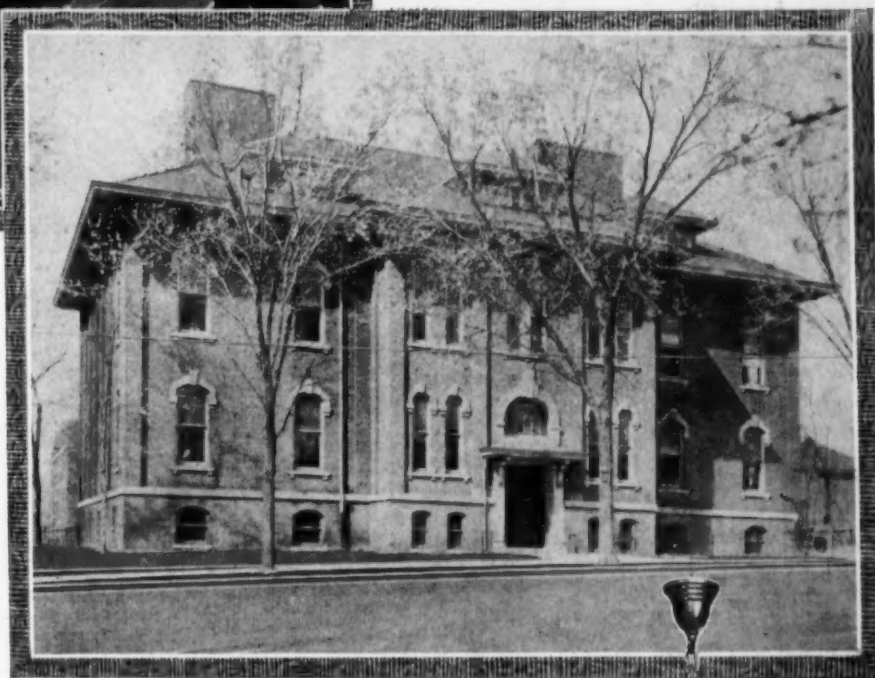
One Denzar is better than none

Because of the wide distribution of light furnished by Denzar, one unit installed in the center of a class room is better than none. Besides, it makes the room available for night classes and also permits class work to go on uninterrupted during dark hours of the regular school program. Hence, where only limited funds are available, one Denzar installed in the center of the class room is better than none at all.

But in class rooms of 20 ft. by 20 ft. or larger, four Denzars, preferably, should be used. Using four reduces the horizontal area to be lighted by each unit and provides a more uniform intensity of illumination.

Denzars have given universal satisfaction for school room lighting. The opal glass reflector and enameled glass diffusing bowl distribute the light evenly on desks and blackboards and eliminate all glare and distracting shadows so common in other types of lighting units.

Hundreds of grade schools, high schools, and colleges have installed Denzar to light their class rooms, study rooms, gymnasiums, laboratories, manual training and domestic science rooms, auditoriums, and offices. Contact with so many of these installations has given Beardslee engineers a wide experience in school illumination and has made available a wealth of information on the subject. Any school board, superintendent, architect, or electrical contractor interested in better school lighting may have this information for the asking—just write



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"The "Empire" Movable d

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Great Strength

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PATENTED July 3, 1917
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The "Empire" Movable and Adjustable Chair Desk is hygienically designed and exceptionally well built—each unit designed to insure a maximum of comfort, long life and service with the utmost of economy and efficiency in use. And because of its superior strength of construction, its exclusive adjustments and unequalled appearance, the "Empire" Movable and Adjustable Chair Desk is absolutely essential to efficient and progressive teaching.

The X-Ray illustration shows in detail its super-construction—the steel reinforcing tie rods and spiral dowels—the heavy wooden brace under book box, which is fastened to the back post by a steel tie hook and mortised into the pedestal in front—the lifting and tilting desk top—the simplicity of adjustments and numerous other features—all contributing factors to its lasting qualities and extreme durability.

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Comfort and convenience are features of "Empire" construction.
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WEST VIRGINIA SEATING CO.,
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Adjustable Chair Desk

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Unequalled Appearance

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promoting efficiency.

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The "Empire" Movable and Adjustable Chair desk thru its unlimited flexibility makes possible the most advantageous and the greatest variety of class arrangements, also varied groupings around the teacher, which lend an ideal home-like atmosphere to the classroom and inspire the pupils to better efforts. These groupings benefit both pupils and teacher as they permit the interchange of ideas, broadening their vision and understanding in a most successful manner.

Standardize on the "Empire" Movable and Adjustable Chair Desk for your schools. It is the most practical, durable and economical. The desk top, which can be easily removed and as easily replaced, makes it as convenient for auditorium and community use as for classroom use.

The "Empire" Movable and Adjustable Chair Desk is made in six sizes to fit the various grades and has five adjustments so that each pupil may be individually fitted.

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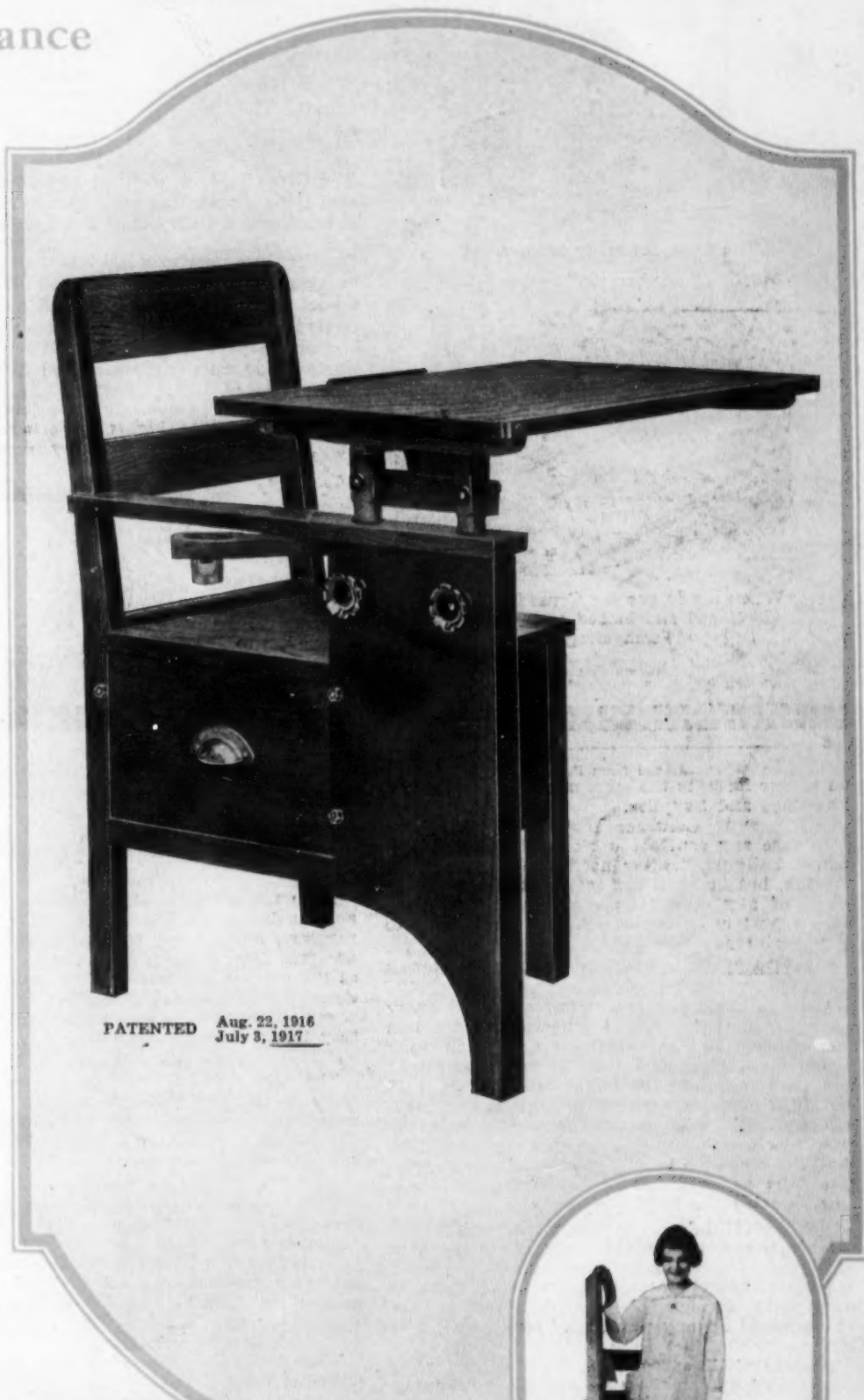
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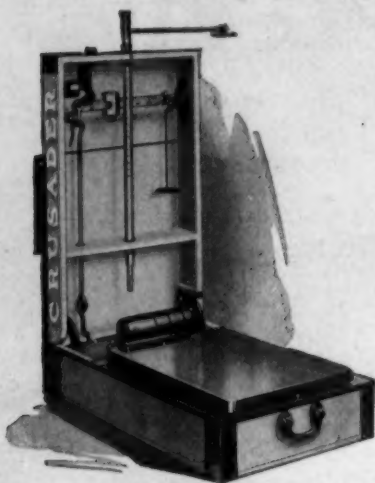


PATENTED Aug. 22, 1916
July 3, 1917



The Lifting Desk-Top.
An exclusive "Empire" Feature.

← SPELL DOWN



The Crusader ready for use.



When not in use the Crusader can be closed and locked to prevent tampering.

CRUSADER

PORTABLE SCHOOL SCALE

WITH MEASURING DEVICE

LIGHTWEIGHT

ACCURATE

COMPACT

The unvarying accuracy and extreme durability of the Crusader Portable School Service Scale, combined with its unquestioned utility and moderate cost, places it within the reach of every school.

The Crusader is a practical and durable, portable folding scale, designed by experts, for use in schools and other public institutions.

Smaller than a suitcase and less than 40 pounds in weight, the Crusader is well adapted for school use, as it can be easily and conveniently carried from room to room without danger of loss or breakage of parts. It can be carried in any position, as the parts are all locked when scale is closed.

The Crusader is a highly perfected scale; of simple construction; beautifully finished and

equipped to determine accurately the weight and height of every pupil. Built compactly and of sturdy design, it will satisfactorily withstand the hard service it must continually receive.

The Crusader is equipped with a telescopic measuring device, graduated in quarter inches. Capacity 250 pounds by $\frac{1}{4}$ pounds. Platform 10 in. x 14 in. Length 20 in. Width 11 in. Depth 6 in.

The dependability of the Crusader is guaranteed. Its unvarying accuracy and extreme durability are the natural sequence of over sixty years of manufacturing experience.

Interesting literature sent on request.

Manufacturers
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DE LUXE
SCHOOL
SCALES
U.S. STANDARD

Chicago Scale Co.
ESTABLISHED 1863
MASON, DAVIS & CO. INC.

(Grand Crossing) CHICAGO

School officials will appreciate the guarantee of service behind every scale backed by the Mason, Davis long-standing reputation of more than 50 years.

(Continued from Page 66)
on proper form, to the office of Superintendent of Buildings and Supplies.

Contract Work.

In case any contract work is being done at a school building, janitor need not keep time on the job, but he shall act as inspector in the absence of any other inspector, and he shall at once report any discrepancies in work to office of Superintendent of Building and Supplies.

HEATING AND VENTILATING.

Temperature.

Janitors shall have the temperature of every room occupied for school purposes at not less than 65 degrees Fahrenheit, by 8:45 A. M. each school day during the season the fan is operated; and shall maintain the temperature between 68 and 70 degrees throughout the day until school is dismissed. Temperature of rooms shall not rise, in winter, above 70 degrees Fahrenheit, nor shall the school be kept in session if the temperature falls and remains below 60 degrees for a longer period than fifteen minutes.

Holidays and Vacations.

Janitors are not required to keep up the fires on holidays or during vacations unless necessary to protect the apparatus from freezing. Janitors are strictly forbidden to keep up excessive fires which might endanger safety of buildings.

Fan.

Janitors shall operate the ventilating fan in season, and during the time the fan is running shall see that all windows and doors leading to corridors are closed, and the fresh air intake open; otherwise room will not ventilate.

In mild weather, when the outside temperature is above 66 degrees Fahrenheit, the use of all ventilating apparatus (fan, engine and coils) shall be discontinued, and janitors will request Principals to direct the teachers to ventilate their classrooms by means of windows and doors, and such heating as may be required shall be by means of direct radiation.

Portables.

It is possible that cold air may be noticeable, even when proper temperature is maintained, on account of heat being too dry. Such conditions may be relieved by filling with water the copper

tank which will be found fastened to casing on top of Smith heaters in portable buildings. This will keep the air in room moist.

CARE OF BOILERS AND HEATING APPARATUS.

Firing.

Keep the fire of uniform thickness and allow no airholes in the bed of fuel. Fire evenly and regularly and not too much at a time. Keep the fire free from ashes and clinkers, and as clean at the corners and edges as the center. Do not clean the fire more often than necessary and never allow ashes to accumulate in ash pit until they touch underside of grate.

Water Level.

The first duty of the janitor upon going to work should be to examine the water level. The gauge cocks should be tried. The gauge glass is not always reliable. In a battery of boilers, the gauge cocks on each boiler should be tried.

Low Water.

If the water is discovered to be low, quickly cover the fire with ashes, or, if they are not obtainable, with fresh coal. Do not turn on the feed, and do not tamper with the safety valve or any other steam outlet. The fire should be drawn as soon as it can be done without increasing the heat.

Leaks.

When leaks are discovered, they should be reported at once.

Blowing Off.

The boiler should be emptied at least once every month and filled up afresh. If the water is muddy, blow out six or eight inches every day. Examine the blow-out valve and check-valve every time the boiler is filled; a leakage from either may lead to disastrous results.

Filling Up.

Allow the boiler to become cool before running cold water; the practice of filling a hot boiler with cold water causes leaks and fractures, and sometimes explosions.

Safety Valves.

Raise the valves from their seats cautiously and frequently. Do not allow the valve to be overloaded.

Pressure Gauge.

The pressure gauge (steam gauge) should stand at "0" when the steam pressure is off and it should indicate the blowing-off pressure when the safety valve is in action. If the gauge does not do this, it should be compared with a standard gauge, and if wrong, should be corrected.

Gauge Cocks and Glasses.

Gauge cocks and glasses should be kept clean and in constant use. The water gauge should be blown out frequently and the glasses and passages to gauges kept clean.

Sediment.

Scale and sediment should be frequently removed. In tubular boilers, particularly, the handholes or manhole should be opened, and the sediment removed from the portions of the plate over the furnace. Care should be taken to keep the boiler as free as possible from incrustation.

Cleaning.

All heating surfaces must be kept free from soot and dirt. Tubes should be cleaned weekly or daily as required.

Exterior of Boilers.

Care should be taken that no water comes in contact with exterior of boiler, either from leaky joints or other source. Avoid dampness in the setting or in the covering of the boiler. Dampness leads to external corrosion.

Fusible Plugs.

Fusible plugs should be examined when the boiler is cleaned, and scraped clean on both sides; otherwise they are liable to prove worthless.

Air Leaks.

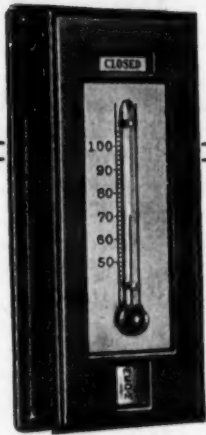
See that the furnace, combustion chamber, and smoke flue are tight. The admission of air through the brickwork of the setting is a source of considerable loss.

Care of Air Compressors.

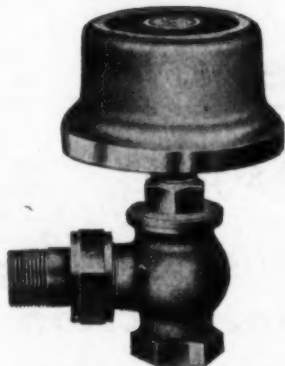
Use nothing but pure sperm oil on this pump, as any other oil will dry up the valve and piston leathers in a short time. Oil regularly once a month by pouring a little sperm oil into the water cylinder and by swabbing the inside of the air cylinder with a little oil, when the piston is up. Fill the oil cup with sperm oil, keeping the cock closed while filling; then when the piston

(Continued on Page 74)

THE OLDEST—THE LARGEST—AND ALWAYS THE MOST PROGRESSIVE



The marvelous little fool-proof thermostat.



The indestructible "slyphon" metal diaphragm valve.



An emblem of satisfaction.

The Stability of the Johnson Service Company and the exclusive merits of the Johnson Heat and Humidity Control, offer you the greatest value in automatic temperature regulation.

**Not the cheapest,
but unquestionably
the most economical**

The Johnson Heat and Humidity Control represents the highest development in heat and humidity regulating apparatus. It is the pioneer automatic system, invented and patented 35 years ago, and used ever since in the best schools thruout the country. Every year has seen some improvement in the Johnson System, until today it is as near perfect as human intelligence, modern machinery and experience can make it.

The Johnson System of Heat and Humidity Control is the only and original ALL-METAL SYSTEM. All rubber material, which has always been a drawback to the use of temperature regulation, has been entirely eliminated. The Thermostat is entirely of metal and will not wear out or deteriorate with years of service and use. The rubber diaphragms in the valves have been replaced with the celebrated, seamless, metal bellows "Sylphon," making the valves as durable and permanent as the foundation of the building. The air compressors used are also specially designed for their particular purpose. Every part of the working apparatus used in the Johnson System, except the pipe, fittings and tank, is manufactured in the factory of the Johnson Service Company, thus insuring the use of the very best materials and the most accurate methods of manufacture.

As a result of this perfection of design, carefulness in manufacture, and the use of nothing but metal in its construction, the Johnson System hardly ever requires any repairs and but a minimum of attention.

Back of the Johnson System is the guarantee of the Johnson Service Company, for quality and service. Having completely organized offices in all parts of the country, the Johnson Service Company maintains a staff of engineers and trained mechanics, many of whom have been in the service from ten to twenty-five years, which, in addition to insuring the best and promptest installation of the Johnson System, also insures a perfect service of periodical inspection, and advice and instruction whenever required.

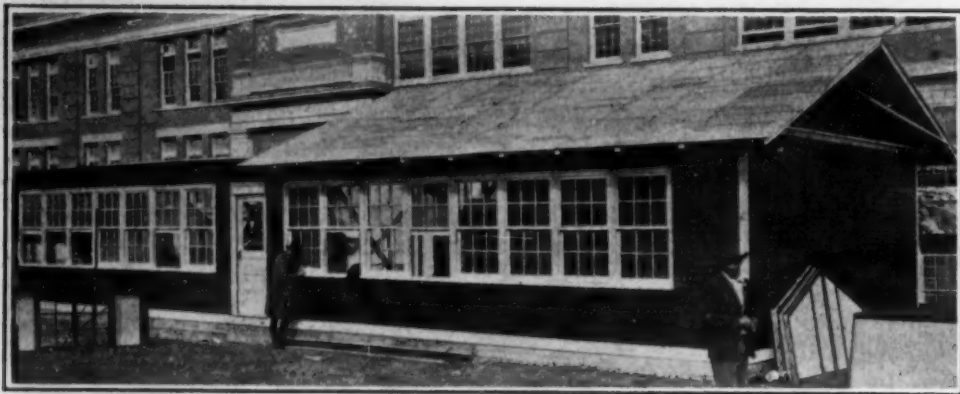
**The Johnson Service Company
never forgets its clients**

The Johnson Service Company
MILWAUKEE, WISCONSIN

NOT THE CHEAPEST—BUT THE MOST SATISFACTORY AND
ECONOMICAL MEASURED BY YEARS OF DEPENDABLE SERVICE

**Picture No. 1**

Showing "Circle A" School in units as received from the factory. Units are factory-constructed complete, entirely finished both inside and out. There are no "extras" to buy, or skilled labor to perform at the time of erection; only the bolting of the units together is required to complete the building.

**Picture No. 2**

This picture taken a few hours later, shows the school partially built and illustrates what a simple matter it is to erect a "Circle A" School from the completely factory-constructed units. Note the finished exterior appearance as well as the complete interior as shown in the next picture.

Showing Both Interior and Exterior Completeness of "Circle A" Schools

Such Completeness—Speed, Simplicity and Economy in Portable Structures is Possible Only Through "Circle A" Construction

We are laying great stress on both the inside and outside completeness of "Circle A" Schools, because this very important feature should be given thorough consideration in the selection of portable schools, or school buildings of any other type. Unless the interior—as well as the exterior—completeness of "Circle A" Schools is taken into consideration, it is not possible to make a real comparison of superiority.

Completeness in every detail is the keynote of "Circle A" construction. The pleasing and uniform exterior appearance of all "Circle A" Schools is equalled by the infinite attention given to every detail of interior finishing. Each "Circle A" Unit—be it a door, window, floor, wall, ceiling or roof section—is absolutely complete inside and out. There are no "extras" which must be purchased in order to complete the building, as is the case with most buildings of portable type.

No time is taken up in fitting sash and doors; nailing on wall or plaster board and interior finishing or with installing hardware. Erec-

tion is simply a matter of bolting the units together. To the purchase price of buildings of any other type it is necessary to add the cost of "extras" and a larger labor bill, in order to make even an approximately equal comparison.

In the many communities where "Circle A" Schools are in use, they are not only giving entire satisfaction, but are acclaimed as the most economical and quickest method for providing adequate school facilities. Then too, they can be salvaged with practically no loss and again erected in a new location to relieve congestion.

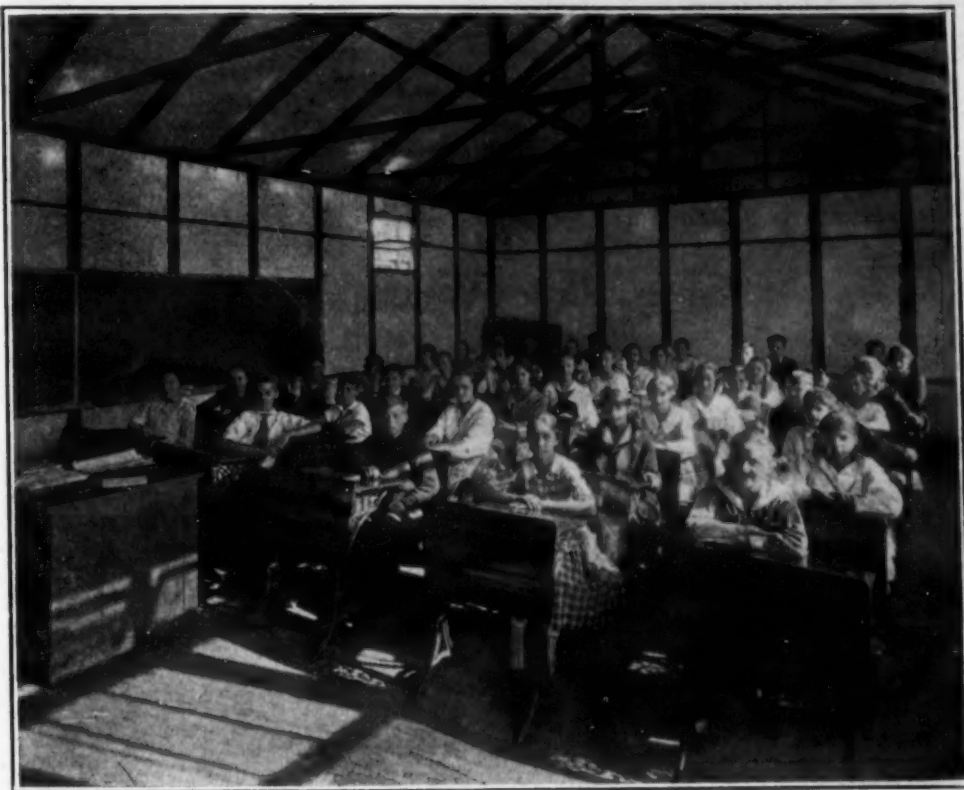
⊗ "CIRCLE-A" ⊗

(All construction fully covered by U. S. Patents)

INTERCHANGEABLE UNIT BUILDINGS

Picture No. 3

Here we have the school occupied a few days later. Your attention is called to the finished INTERIOR and completeness as well as the high pitched ceiling, permitting ample ventilation and airiness. Such completeness both inside and out in a portable structure is only possible through "Circle A" construction. The simple removal of the bolts will restore the building to its original form, as shown in Picture One, more quickly than it was erected with practically no loss.



You Can Know the Final Cost Before Placing Your Order

School Boards should know the final cost of any building project in order to prepare for financing, and to safeguard the interest of their communities as well. No other method is business-like or safe. We contract "Circle A" Schools erected anywhere in the United States (when size of order warrants) or we guarantee completed cost if the buildings are erected under the supervision of our engineers.

"Circle A" Schools are sturdy buildings, fully as durable as standard built structures, stoutly resisting the most severe weather of the north and heat of the south. In any other type of building which embodies such complete comfort in both winter and summer, very little—if any—of the material can be salvaged.

Prepare Now for September Term

"Circle A" Schools are manufactured in plants conveniently located in different sections of the country and we are prepared to make im-

mediate deliveries in any quantity, giving quick service in their erection. However, today is none too soon to prepare adequate housing facilities for the coming school year.

Our special school building catalogue will prove to be a helpful guide in determining your school requirements; it shows in detail many actual photographs and floor plans of "Circle A" Schools. Write, wire or telephone your requirements to address below, and prices will be furnished immediately.

THE ALEXANDER LUMBER COMPANY

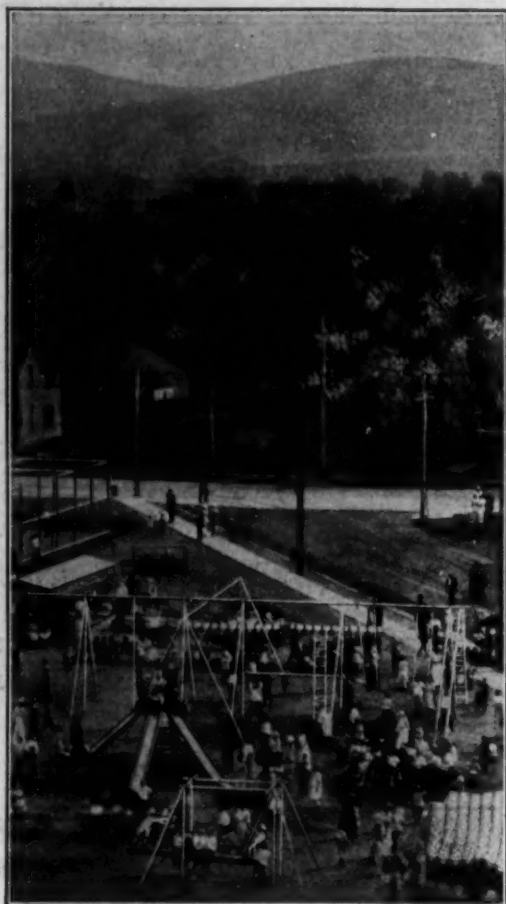
Unit Building Division "B"
CHAMPAIGN, ILLINOIS

CHICAGO — NEW YORK — FORT WORTH — CLEVELAND
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INDIANAPOLIS — DENVER — TULSA — TAMPICO

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INTERCHANGEABLE UNIT BUILDINGS



Section of a typical playground, fitted with MEDART Playground Equipment, located and installed with the assistance of our Engineering Department. No matter what the size of your appropriation, MEDART engineers are always glad to give you intelligent advice on any playground problem.

Every School Should Have a SCIENTIFIC Playground

The scientific playground is a necessity to every school—it helps growing children to develop the qualities of body and mind that lead to the greater successes of later life. Not only that, but SCIENTIFIC playgrounds, properly planned and equipped, make the teacher's work far easier and more fruitful.

MEDART

PLAYGROUND EQUIPMENT

Built on the results of fifty years' experience by pioneers in the playground movement, and the leaders in perfecting playground equipment rightly fitted to train growing children. Get Catalog "L," really a textbook on playground planning and equipment. Tell us your problems and get the advice of our Engineering Department, without cost or obligation.

FRED MEDART MFG. CO.

Potomac and De Kalb Sts., St. Louis, Mo.

New York
52 Vanderbilt Ave.

San Francisco
Rialto Building

(Concluded from Page 70)
goes down, open the cock and the oil will be drawn into the air cylinder. Close the cock before the piston starts up again and replace the cap to the oil cup.

Never shut off the water supply, except for repairs, as the valve leathers will dry up and prevent the pump from operating when water is turned on again. In summer and other times when the pump is not in use, shut off air cock, but never shut off the water supply at water cock or any other place. The pump will then use no water if it has been properly cared for and if check-valve is clean.

At times when there is danger of freezing and the main water supply is shut off, the pet cock should be opened and all water drained off; otherwise the most expensive portion of the compressor will be destroyed.

Janitor shall feed boilers with the proper boiler compound, in correct proportions and at regular intervals, in accordance with recommendations of the Boiler Inspector.

Cleaning at End of Coal Burning Season.

At the end of coal burning season, janitors shall thoroughly clean heating apparatus for inspection and repair; removing handhole and man-hole plates, cleaning fire boxes, back connections, flues, etc. After inspection, put in one gallon of kerosene, fill boiler slowly until oil covers the tubes, then let the water out slowly and remove plates.

Freezing.

During cold weather, the janitor must take every precaution necessary to protect plumbing and steam pipes, and should watch his fires carefully on Saturdays and Sundays, and on other holidays.

In extreme cold weather, if necessary, allow water to run slowly over night, or shut off from building entirely. If water is shut off, drain all toilet and urinal tanks, open all faucets, and then fill toilet bowls and traps on fixtures with a solution of salt water or pipe klenzo and water.

Motor.

Janitors should see that motors are kept properly oiled and chain belts properly greased, also that leather belts receive one coat of belt dressing during summer months.

Janitors having thermostats, pumps, steam valves, or thermostat valves needing attention should report at once.

FIRE PREVENTION.

Janitors should at all times take special precaution toward fire protection.

All outside doors on school buildings must be unlocked at all times while school is in session. All other doors in classrooms, cloak rooms, halls etc., must likewise open outward and be in first class working order.

Windows and doors leading to fire escapes must be unlocked at all times while school is in session, and must be examined weekly to see that they are in good working order.

Fire gongs should be tested daily before opening of school. Watch carefully all fire protection equipment, fire hose, fire escapes, and see that extinguishers are in a place easy of access. Fire escapes and doors of circular fire escapes must be free of ice and snow, and doors easy to open at all times.

All locks and bolts, wherever used on exit doors, shall be operated at least once each week and kept oiled and ready for immediate use at all times.

Janitors at schools having stacks in which refuse and paper are burned must make inspections frequently to see that screens are in good condition to prevent sparks from flying to roof.

Students' benches and surrounding floor in carpentry classrooms must be kept clear of all accumulations of sawdust, shavings and litter of all kinds.

Matches if used should be kept in metal match box or safety matches used.

Storing of any combustible material under stairways is absolutely prohibited; oily waste and sweeping compound are to be kept in a metal container and never in a wooden box; volatile oils, paints, turpentine, shellac, etc., must be kept out of danger zone. Do not allow rubbish to gather anywhere in building; clean it out. Never place hot ashes in a wooden receptacle of any kind.

REQUISITIONS AND REPORTS.

Supplies.

Requisitions for janitors' supplies are to be

sent in once a month on the last day of the school month. No others will be honored except in cases of emergency.

Coal.

Orders for coal should be sent in at least ten days before probable exhaustion of supply on hand.

Reports.

At the end of every week during which coal has been received, the janitor shall send in a report of same on correct form, properly filled in.

At the end of every month, janitor shall make a report on coal situation at his school, on regular monthly coal report, giving all information asked for on said report.

Janitor shall send in a Repair Report card at the completion of any job at his school by workmen not in the employ of the School District.

Special.

Special reports are to be sent to the office of Superintendent of Buildings and Supplies whenever requested.

Record Book.

Each Janitor shall keep a record book, in which he shall record by date such information as he considers necessary, such as time of workmen, etc. This book shall be used for reference if necessary.

MISCELLANEOUS.

Walls.

Janitors and teachers are forbidden to drive any nails, tacks, or any kind of picture fasteners into plastered walls.

Window Sills.

Plants are not to be allowed on window sills unless the wood is protected by a metallic or fibre plate.

Bells.

Janitors shall ring bells for opening of school, dismissal, and fire drills, in accordance with instructions of Principal.

Clocks.

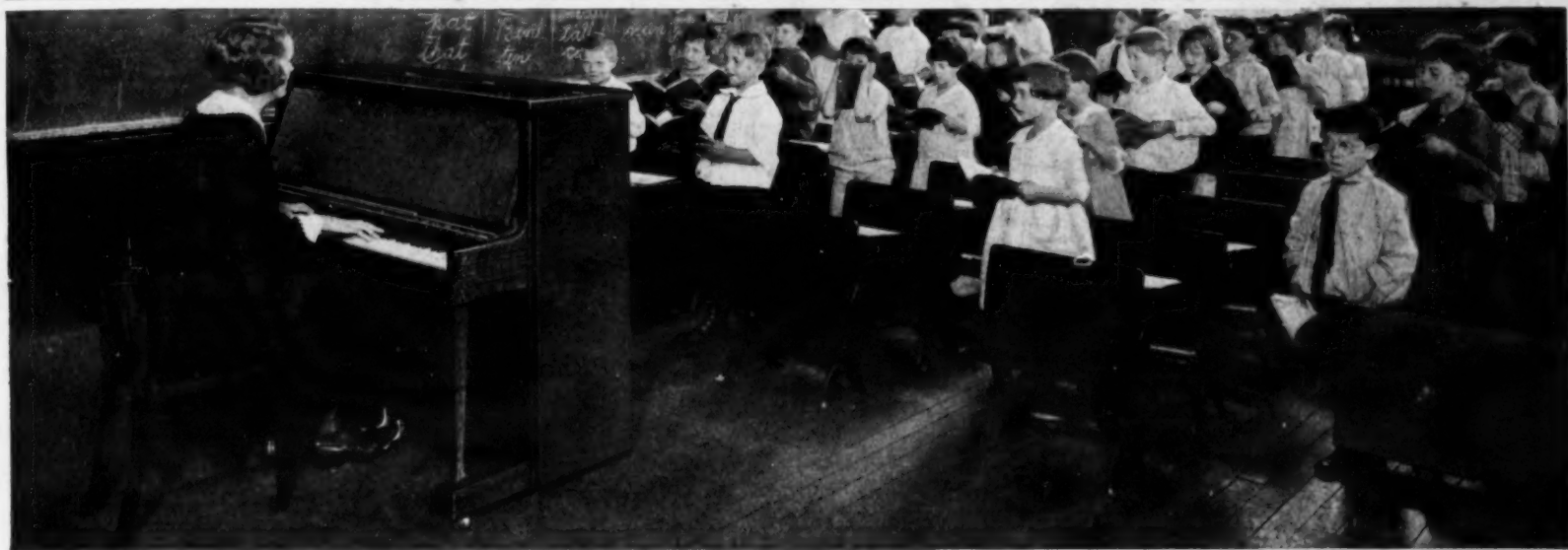
Clocks in every room should be set correctly every day and should be wound once a week.

Where Smead Wills systems are installed, stack heaters should burn continuously.

(Continued on Page 77)

STROHBER DIMINUTIVE

A FINELY MADE PIANO PRODUCED BY A MANUFACTURER ESTABLISHED OVER THIRTY-FIVE YEARS



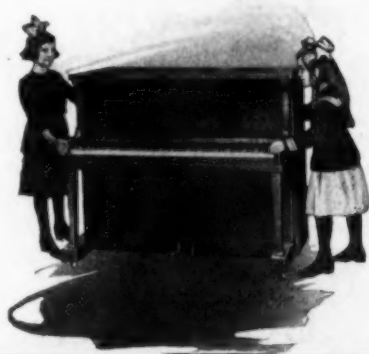
THE PIANO THAT PROMISES MORE GOOD MUSIC IN THE SCHOOL ROOM



FOR YOUR SCHOOL

The smallest complete upright piano made.
88 notes, 7½ octaves, standard keyboard.
Height: 3 ft. 7½ in.
Width: 4 ft. 6½ in.
Depth: 2 ft.
Knee room: 23½ in. Standard.
Keys: Same size as standard keyboard.
Full sounding board.
Finishes: Fumed Oak and Wax Mahogany.
Full weight hammers.

WEIGHT
380 POUNDS



This is the new piano—designed for the school-room. A full toned instrument with a standard keyboard, 88 notes, full-sized keys. It is 43½ inches high, low enough for the teacher to see her pupils over its top—light enough to be easily moved about from room to room.

It has the tone of a Strohber standard upright and is equal to any other high grade piano. You will find it hard to distinguish one from the other.

It satisfies all the conditions of school rooms, and requirements of teachers. You can be supplied by your local music merchant—just send us his name.

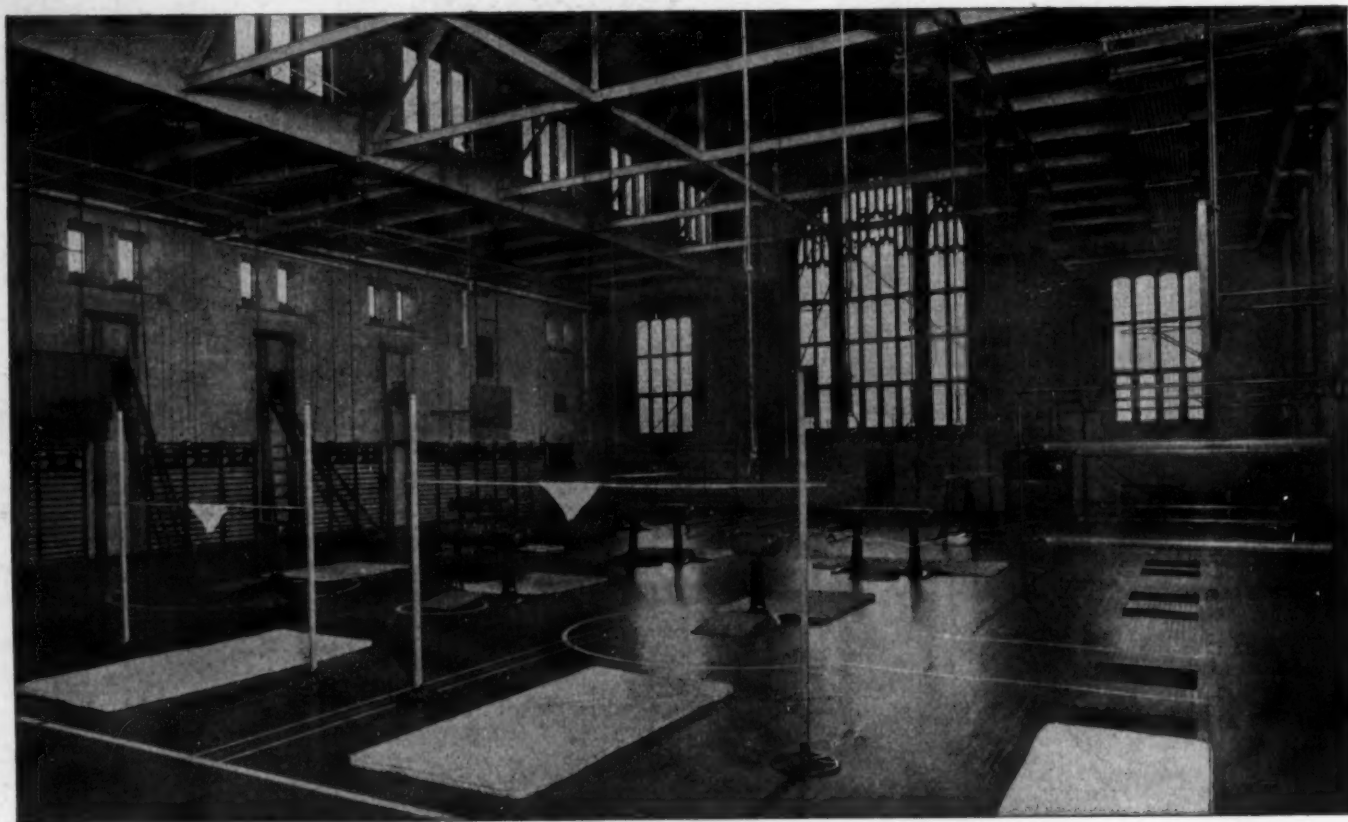
It is important that you know all about this new piano. A post card will bring a descriptive book

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NARRAGANSETT Gymnasium Equipment ORDER

FOR
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SEND
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SPECIFICATION

NOW!!

DELAY
MEANS
DISAPPOINTMENT

NARRAGANSETT MACHINE CO.

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1504 Monadnock Block

PROVIDENCE, R. I.
Established 1882

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WRITE FOR CATALOGS

APPARATUS

LOCKERS

VACATION

Is The Time When School Officials Lay Their Plans for the Next School Year

100% System

THRIFT

is one of your most pressing problems, because upon your teaching of thrift depends the stability of the country.

However, inculcating the practice of thrift very often is a waste of the teachers' time, which might better be occupied in a more useful manner.

What is desired is a system relieving the principals and teachers of detail work.



JUST A POST CARD WILL DO.

AMERICAN BANKING MACHINE CORPORATION

New York Office
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404 Wrigley Building
CHICAGO

Executive Offices
Saginaw, Mich.

THE AUTOMATIC RECEIVING TELLER

is the answer to your problem.
Read this:

"If there is any better system of teaching thrift in schools, I have yet to discover it." Superintendent of Schools Sheridan, Lawrence, Mass.

A complete thrift course without worry, expense or detail, but automatically successful.

MACHINE AND SYSTEM INSTALLED AT ABSOLUTELY NO EXPENSE TO THE SCHOOL.

(Continued from Page 74)

Janitors shall take special care to clean out all dirt around bottom of outside screens.

Display of Flag.

The United States National Flag shall be the only flag displayed, and the said flag shall be displayed in accordance with Section 629 of the School Code, which reads as follows:

"The Board of School Directors in each district shall display flag upon or near each public school building in clement weather during school hours and at such other times as the said Board may determine."

The flag should also be displayed on other appropriate holidays and occasions, and the flag should not be hoisted before sunrise nor allowed to remain up after sunset.

On Memorial Day, May 30th, the flag should fly on half staff from sunrise to noon and full staff from noon to sunset. When the flag is flown at half staff it should first be hoisted to the top of the staff and then lowered to position.

Care of Flag.

It shall be the duty of the janitor to attend to the raising and lowering of the flag in accordance with above regulations. The janitor shall keep and maintain the flags in good order and repair, and when taken down, he shall see that they shall be neatly folded and placed in a regular and secure place.

Economy.

Janitors should at all times exercise economy in the care of their buildings. They should endeavor to keep the cost of operation to a minimum, without, however, lowering the standard of efficiency. Watching the little things will help to attain this end. The following are a few suggestions:

Turn off water from urinals and drinking fountains as soon as school is dismissed.

Watch closely for leaks in water service and report at once.

Ash cans when removed should be almost entirely full—not too full, however, to cause spilling.

Avoid unnecessary use of electric lights.



School Lands and Funds.

The state has a right under the general police power to enact reasonable and proper statutes respecting the education of its youth.—State v. Bartels, 181 N. W. 508, Ia.

Schools and School Districts.

A consolidated school district created under the Iowa supplemental supp. of 1915, §2794a, as amended by the 36th Iowa general assembly, c. 342, as it existed prior to the enactment of the acts of the 37th general assembly, c. 432, providing that no school corporation from which territory is taken to form a consolidated independent corporation shall after the change contain less than four government sections, was invalid because of the fact that consolidation left certain of the subdistricts divided in such a way as to leave less than four government sections of land therein.—State v. Thompson, 181 N. W. 434, Ia.

A consolidated school district had the right to reconsolidate and enlarge its territory by proceedings in accordance with the statute as to creation of consolidated school districts.—State v. Thompson, 181 N. W. 434, Ia.

The Missouri revised statutes of 1909, §10837, prescribing a method of establishing a new school district, to be composed of two or more entire districts, is held not applicable to the creation of a consolidated school district, under the Missouri act of March 14, 1913, (Missouri laws of 1913, pp. 721-723), in view of the inconsistency between the two statutes, 1, 2, 3, and 5 of the act of 1914.—State by Bothwell ex rel. Gray v. Schuster, 227 S. W. 60, Mo.

A consolidated school district, created under the Missouri act of March 14, 1913 (Missouri laws of 1913, p. 721), may embrace lands in two

or more counties.—State by Bothwell ex rel. Gray v. Schuster, 227 S. W. 60, Mo.

Under the acts of the Iowa 38th general assembly, c. 149, where a petition for the establishment of a consolidated school district, did not conform its recited boundary lines to the boundary lines of the then established and existing subdistricts, it could not be approved by the county superintendent, but was referable by him to the county board of education, to receive their approval, before publication by the county superintendent of notice as to filing objections to the petition.—State v. Consolidated Independent School Dist. of Scarville, 181 N. W. 178, Ia.

Where proceedings to establish a consolidated school district were defective, in that the petition, not conforming its recited boundary lines to the boundary lines of the then established and existing subdistricts, was approved by the county superintendent alone, and not by the county board of education, the petition filed could still be referred to the county board of education, and upon its favorable findings, notice by publication given as required by law; that is, it was not necessary to file a new petition, but original proceedings could be had from the point immediately preceding the departure from legal requirements.—State v. Consolidated Independent School Dist. of Scarville, 181 N. W. 178, Ia.

School District Government.

An election of directors of consolidated school district, held by only two of the three judges appointed by the county superintendent under the acts of the Iowa 38th general assembly, c. 149, without the two judges appointing a third judge, as required by such statute, is held valid in an action to enjoin the issuance of bonds of the consolidated district, where no prejudice resulted from failure to appoint third judge, and where different result would not have followed had the third judge been appointed.—McDunn v. Roundy, 181 N. W. 453, Ia.

The acts of the Iowa 38th general assembly, c. 149, providing that on failure of any of the judges appointed by the county superintendent to hold an election of directors of the consolidated school district, his place "shall" be filled by the

Safeguarding Health With

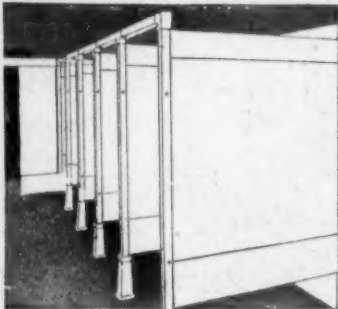
Pure white—with fire-finished non-porous surface—Vitrolite offers no hiding place, crack, crevice or pore for dirt or germ to enter.

One stroke of a damp cloth cleans this impervious surface perfectly. For table tops and counters in the lunch room, for wainscoting, toilet partitions and other school uses, Vitrolite renders the most satisfactory and sanitary service.

We would like to place in the hands of every school trustee, secretary and superintendent a copy of our book, "VITROLITE."

The Vitrolite Co., Chamber of Commerce Bldg., Chicago

Vitrolite has an envied reputation as ideal material for toilet partitions and showers. To this the Vitrolite patented self-locking, "boltless, screwless" jointing system has contributed a great deal. Note the size of the Vitrolite slabs. Slabs for wall use are furnished in sizes from 30 x 84 to 36 x 84.



If it's Pure White it's

CLEANLINESS in the SCHOOL



This delightfully clean, attractive lunch room is most decidedly a factor in promoting physical well-being and a better mental attitude.

VITROLITE

judge or judges present, is mandatory, and will be so held in a direct attack upon the acts of two judges in holding the election without a third judge, but when the two judges have proceeded with the election and the validity of the election is called into question, without any prejudice shown, simply on the ground that the third judge was not appointed, the statute becomes in effect directory, and the election will not be held void.—*McDunn v. Roundy*, 181 N. W. 453, Ia.

The acts of the school directors holding office by virtue of a fraudulent election were valid as to third parties, though performed at a time when a contest which terminated in their ouster from office was pending; they being de facto officers.—*Gardner v. Goss*, 227 S. W. 25, Ark.

As the Texas revised statutes, art. 4510, gives the superintendent of public instruction authority to hear and determine all appeals from subordinate school officers, an appeal must be taken to the superintendent, before parties aggrieved by an order of a district board appointing a depository can be reviewed by the courts.—*Donna Independent School Dist. v. First State Bank of Donna*, 227 S. W. 974, Tex. Civ. App.

School District Property.

An Iowa school district, having purchased land by warranty deed, took full title thereto free from any vested reversion to the grantor or to any person claiming through him, notwithstanding the reversion statute (Iowa Code supplementary of 1913, 2816), and could sell the property and give the grantee complete title.—*Independent School Dist. of City of Des Moines v. Smith*, 181 N. W. 1, Ia.

The power of a school corporation to hold or dispose of its property is to be determined by the present state of legislation, in the absence of vested rights in third persons.—*Independent School Dist. of the City of Des Moines v. Smith*, 181 N. W. 1, Ia.

Where four electors of a school district gave notice to contest the vote for construction of a schoolhouse, but the notice did not state sufficient grounds for a contest, and was not served in time, it is held that the contest was properly dismissed; neither the North Dakota complete laws of 1913, § 943, nor section 1046, being ap-

plicable.—*Voyen v. Eagle School Dist. of Richland County*, 181 N. W. 82, N. D.

The California code of civil proceedings, § 1187, requiring mechanics' lien claims to be filed within ninety days after expiration of the thirty-day period following cessation from labor on the building, is not applicable to the filing of claims of materialism and laborers under the California statutes of 1897, p. 201, as amended by the statutes of 1911, p. 1422, requiring such claims to be filed as a condition to recovery on school building contractor's bond; the filing of claims for material furnished or labor performed for school contractor within ninety days after completion of the contract being sufficient.—*Nelson v. Trounce*, 195, p. 303, Calif.

Where on school contractor's default the board of education completed the contract, and in so doing exhausted the entire balance of the contract price not paid, the contractor prior to the default, and with the consent of the contractor's surety paid the subcontractors and materialmen directly, there was nothing due the contractor not paid, and the board was not required to apply the difference between the contract value of the building at the time of its abandonment by the contractor and the amount theretofore paid the contractor to the claims of materialmen and laborers for material furnished to and labor performed for the contractor.—*Nelson v. Trounce*, 195, p. 393, Calif.

School District Taxation.

The word "municipality," as used in the Pennsylvania constitution, art. 9, § 15, limiting the indebtedness of municipalities, cannot, in view of the broad sense in which the word is used in section 8 and 10, be construed to include "school districts."—*Long v. School dist. of Cheltenham*, Tp. 112 A. 545, Pa.

The Ohio general code, § 7625, conferring authority to submit to the electors the questions of issuing bonds for schoolhouse construction, enlargement, or repair, or for playgrounds, if the funds at the disposal of the board of education under the Ohio general code, §§ 7629, 7630, are insufficient, does not authorize the issuance of bonds to purchase motortrucks or wagons.—

Allard v. Board of Education of Madison Tp. Rural School Dist., 129 N. E. 718, Ohio.

Under the Mississippi laws of 1916, c. 194 (Hemenway's Code, § 4004), an election to determine the issuance of bonds to erect a schoolhouse in a consolidated school district is void if held at a place not designated by the statute, notwithstanding all electors had due notice.—*Edwards v. Board of Sup'rs. of Bolivar County*, 87 So. 8, Miss.

Where the board of education submitted to the electors the question of the bond issue under the Ohio general code, § 7625, for certain authorized purposes, and also for the unauthorized purpose of purchasing motortrucks and wagons, and such purposes were submitted as one proposition affording the electors no opportunity to vote separately on the various purposes, the entire bond issue may be enjoined; it being impossible to determine whether the issuance of bonds for the legitimate purposes have the approval of the majority of the electors.—*Allard v. Board of Education of Madison Tp. Rural School Dist.*, 129 N. E. 718, Ohio.

Any doubt as to the Kentucky laws of 1920, c. 14, § 19, permitting the board of education to levy annual taxes for the purpose of erecting school buildings, is dispelled by section 20, authorizing the issuance of bonds, acquiring of sites, and erecting schoolhouses.—*City of Pineville v. Moore*, 227 S. W. 477, Ky.

Though the Kentucky legislature has in certain instances provided that local school taxes shall be levied on the property of white citizens to support white schools, and on the property of colored citizens for the support of colored schools, the constitution does not require this to be done, and white persons may be taxed for colored schools, in view of the constitution, § 187, providing for separate schools and against distinction on account of race or color in school maintenance.—*City of Pineville v. Moore*, 227, S. W. 477, Ky.

The Mississippi laws of 1918, c. 254, authorizing the keeping of school in the old buildings until the erection of a consolidated school building in a consolidated district, does not authorize

(Concluded on Page 127)



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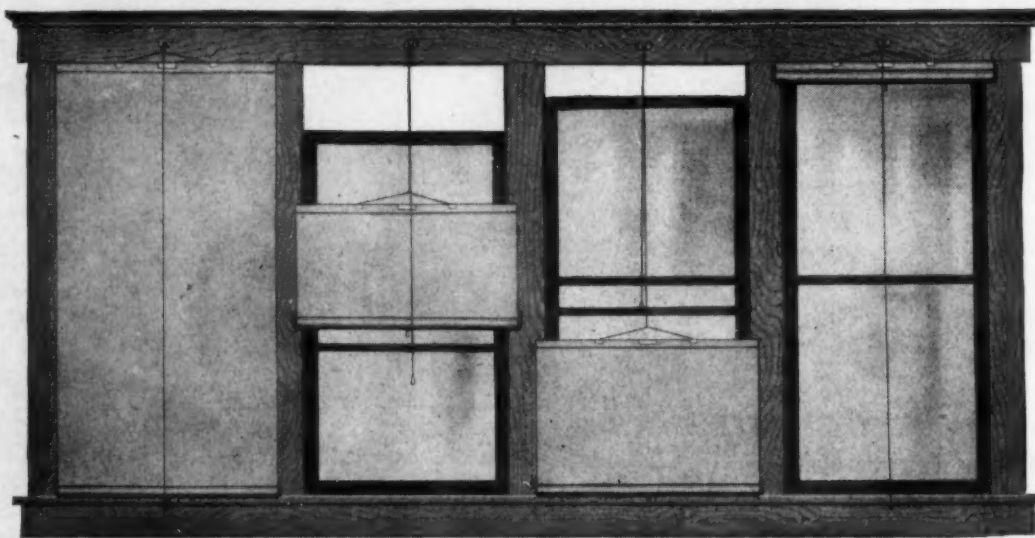
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Their mechanical construction is simple, positive in action and absolutely "fool-proof." The rollers, which are specially built, are large and strong and are equipped with an over-sized spring which insures their rolling and carrying qualities. They have no delicate parts to get out of order—are sturdily built and guaranteed to withstand the hard usage and abuse to which school property is subjected.

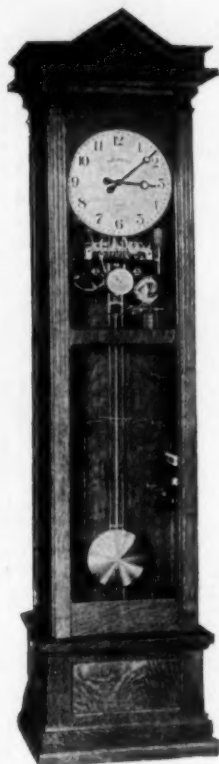
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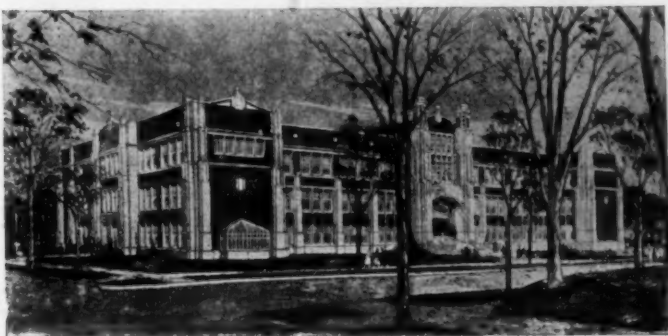
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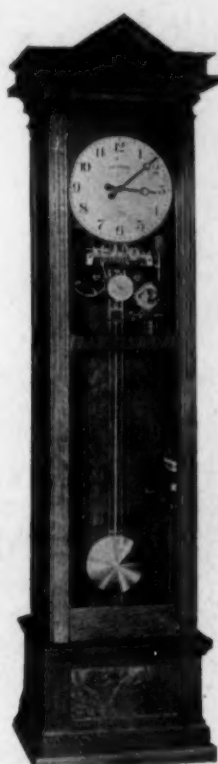
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STANDARDIZE HIGH SCHOOL BUILDINGS.

—The administrative officers of the New York City schools have been working for some time on a plan for standardizing the high school buildings to be erected within the next few years. They propose that the principles so successfully worked out and applied in the standardization of elementary buildings be modified and added to in order that the greatest possible economy and efficiency be obtained in the proposed new buildings and in their planning.

A new high school for Brownsville is to be the first of the standardized buildings and is to provide accommodations for four thousand pupils in a metropolitan high school organization. The building is to contain 75 classrooms, each for 35 students, and the following special rooms; one music room, three free hand drawing rooms, one mechanical drawing room, one chemical laboratory, one physics laboratory, two botany and zoology laboratories, one science lecture room, two science recitation rooms, one sewing room, two typewriting rooms, and two gymnasiums. In addition it is proposed that there should be a library, two cafeterias with accommodations for 250 each, a medical examination room, a dental clinic, a small infirmary, a swimming pool, arranged if possible so that it may be used alternately by boys and girls, an auditorium with sittings for about 1,500, suitable offices for the principal and his assistants, a room for a school bank and a store, a printing room, eight or ten small offices for chairmen of departments, general organization and publications, and a suitable lunch room for the teachers.

During the past five years many details of the

New York high schools have been standardized; the floor area required for standard classrooms has been fixed and similar standard areas have been worked out for laboratories, work rooms, locker and wash rooms, shops, corridors, stairs, etc.

These standards have been restudied in the case of the Brownsville high school and have been submitted for criticism to the administrative and supervisory officials of the high schools, to heads of departments and to teachers for criticism and suggestions.

Under the efficient direction of Mr. C. B. J. Snyder, architect of the board of education, many details of construction in the New York schools have been standardized. The cubic content of classrooms, floor areas, lighting, etc., have been standard for twenty years and more. Construction details, too, have been worked out to secure the greatest permanency, resistance to hard wear-and-tear and economy. Both standards of planning and construction have been revised and improved as research and experience have shown desirable improvements and as building markets have shown changes to be expedient.

BUILDING AND FINANCE.

—The teaching staff of the public schools of Berkeley, Calif., during the months of September and October, 1920, subscribed bond discount money to tide the schools over a financial difficulty occasioned by unavoidable conditions in the bond market. It is estimated that 35 one thousand dollar bonds have been discounted to date and that \$1,400 of the original fund remains, to be drawn on as needed for emergency purposes. The contributions of the teachers have benefited the school building program since it enabled the board to discount sufficient bonds to complete the school building work.

—South Pasadena, Calif., on May 18th held a school bond election, at which time bonds in the amount of \$125,000 were voted for an auditorium and gymnasium. About a month ago, bonds in the amount of \$105,000 were voted for a new elementary school.

—In order to accommodate the increase in school enrollment in Butler District, Hancock

County, W. Va., it was found necessary to purchase six two-room portable schoolhouses. Plans will be begun this year for the erection of a new high school building and a new grade school.

—A new rural school building has been completed at Swift's Corners, Me., at a total cost of \$2,500. The building which was built from plans submitted by the state educational department, is 20 by 26 feet in size. The ceiling is of steel, the floor of hardwood, the walls of plaster with a 3-foot wainscoting of pine, and the interior finish is in pine. The building faces east and has six windows on the south side giving excellent light. An additional piece of ground has been obtained for a playground where the students may enjoy a little recreation.

—Lorain, O. Two new schools are in process of completion and will be occupied next year.

—The board of education of Minneapolis, in May, let contracts for the erection of a large high school in the southern part of the city. Plans used a month previous for the construction of the Northeast High School have been used in this new building.

The lowest figures received for the new South High School were \$668,797. The lowest bid received during the last week of April for the Northeast High School was \$698,117. The architect made some changes in the exterior of the South High School in the direction of improving its appearance and provided that the third floor should be left unfinished because of the lack of pupils for a year to come. The contract price of the new high school was reduced by the changes to \$613,511.

On the basis of cubic contents, the buildings which are of first-class, fireproof construction, with every detail of the best quality, cost 20.78 cents for the Northeast High School, and 21.4 for the South High School.

In excavating for the Northeast High School, water and gravel were struck at a depth of about twelve feet, which necessitated the use of piles to reinforce the foundation, at an additional expense of \$42,000. At one time it was thought that the site would have to be abandoned and a new one purchased, but even this increased cost would not justify the expense of a new site.



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Bulletins

—Two bond issues were passed in Montgomery County, Ala., at a special election, the result of which authorizes the County Board of Education to issue \$300,000 for the building of rural consolidated schools, and \$200,000 for the transfer of the county's warranted debt to bonded indebtedness.

—Euclid Park School, at Cleveland, O., on May 6th, participated in the laying of the cornerstone of its new building. Mrs. Joseph Ruff, president of the Euclid Park Mothers' Club, officiated at the ceremony. The new building which is to contain twelve rooms, will replace an old building which was at least 75 years old. It will accommodate 250 children when occupied next fall.

—State Supt. V. M. Riegel of Ohio has recently praised the Cleveland schools for their economy in financial matters. According to Mr. Riegel, the bonded indebtedness of the schools is only 1.1 per cent of the city's tax duplicate, while the percentage in many other cities and communities of the state runs up to two, three, four and often five per cent.

If the Cleveland schools issued bonds as freely as some Ohio school districts, said Mr. Riegel, they would have an indebtedness of close to \$300,000,000 instead of \$20,000,000. It is even charged by some educators that the local board of education has been too conservative in asking the taxpayers to replace antiquated structures.

—Detroit, Mich. The board has named the new intermediate building the Levi L. Barbour School, and the new high school has been given the name of the Southwestern High School.

—In buildings, the public schools of St. Paul, Minn., are far behind their needs. A report recently made by the National Committee for the Chamber of Commerce in cooperation with the public schools, shows that St. Paul is the lowest of the large cities in that section of the country in its provision of modern buildings. Many of the pupils are housed in buildings built previous to 1888. Buildings of the 1890 decade are fair but practically nothing built prior to 1900 can be called modern. This situation shows the heavy task developing upon the committee and the school administration to bring building facilities up-to-date.

It is pointed out that 2,069 children of St. Paul are attending school but half a day because there is no room, no teacher, or both, to permit full work. This means that many children must suffer the humiliation of failure who under more normal conditions would have kept up. Special help or make-up work by the teacher is impossible in double sessions and in most half day sessions.

Plans for new buildings have been adopted within the year and new structures within the limits of funds provided are under way with prospects for their ultimate use with the opening of school in the fall.

—Fire hazards in public school buildings of New York City, which have been neglected by the board of education for three or more years, because of a lack of funds, are about to be removed. The board has recently approved plans for the removal of fire dangers in six schools in Brooklyn, at a cost of approximately \$4,000. Fire stops, removal of wardrobes, and new fireproof doors are included in the new plans.

The board of estimate has allowed \$250,000 for fire prevention work, it being understood that a further appropriation may be granted if necessary. It is probable that it will be necessary, since an estimate made in August, 1919, showed that about \$4,000,000 will be needed to perform all of the work called for by the fire and building bureaus.

Among the typical orders that appear frequently in the orders of the fire department to the education department are these:

Replace wood stairways with stairways of fireproof material.

Replace wood doors along exit stairs.

Enclose stairways with fire and smoke proof partitions.

Remove clothes closets obstructing exit doors and passageways.

Provide self-closing fireproof doors leading to halls from storeroom.

Replace wood casing on steam pipes with metal covering.

Replace hooks holding stairway doors with automatic clutches.

Provide adequate interior fire alarm systems.

Fire orders, it is estimated, are standing against almost half of the school buildings of the city and are distributed over all of the boroughs.

—The school board of Springfield, O., has recently been criticized for awarding contracts on work to be done on new schools when the bonds to pay for the work have not been sold. In defending the action of the board, Supt. G. E. McCord pointed out that considerable interest money might be saved to the taxpayers. It is the opinion of the board that the bond market will be down by October and that it will be possible to save the difference in the rate of interest. The present plan is to issue \$230,000 worth of bonds in July and \$260,000 worth in October.

—The state distributive fund for the common schools of Illinois has been fixed at \$12,000,000 for each of the coming two years, which is \$8,000,000 below that demanded by the teachers of the state. The amount doubles the allowance made by the general assembly in 1919.

—Ogallala, Neb. A special election held recently to vote \$80,000 in bonds for a high school, has been declared invalid because the board lacked one day in advertising the election the required length of time. The board is face to face with a large overflow of pupils and is fearful that another election will be sufficient to defeat the proposition.

—Washington, D. C. A local citizens' association has recently approved the \$5,000,000 program for school construction recommended to Congress by the District School Commissioners, and especially the proposed erection of a junior high school.

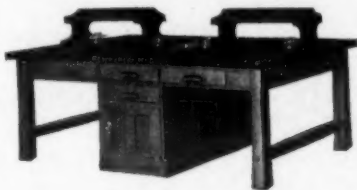
—Harrisburg, Pa. The school board in its adoption of a budget \$132,000.68 short of the estimated expenditures, faces a deficit. It is believed that the shortage will be made up by reason of a general increase in property valuations at the triennial assessment. The total estimated revenues are \$1,026,593 and the total estimated expenditures are \$1,158,594.58.

(Concluded on Page 85)

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We have many letters from Boards of Education and School Principals testifying to the merit of Kewaunee Equipment. We quote from two of them:

Geo. A. McFarland, Supt. of the Dept. of Education, Williston, N. D., writes: "The Chemistry Desks and Biological Tables we purchased from you have given entire satisfaction. They are substantial, complete and convenient."

C. W. Richards, Supt. of the Ardmore City Schools, Ardmore, Okla., writes: "Eight years ago we installed in our Senior High School your Kewaunee Domestic Science Equipment. They have been in constant use ever since. They look almost as good as new today. They are the most convenient and satisfactory that we have ever used. When we get ready to equip our Junior High School, I am sure that our Board will be very much in favor of this equipment."

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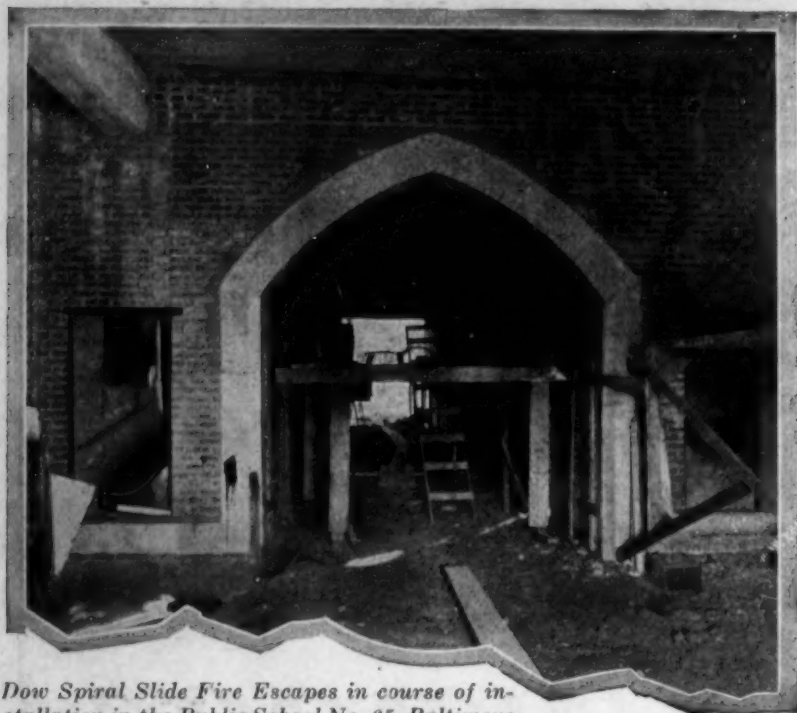
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Dow Spiral Slide Fire Escapes in course of installation in the Public School No. 65, Baltimore

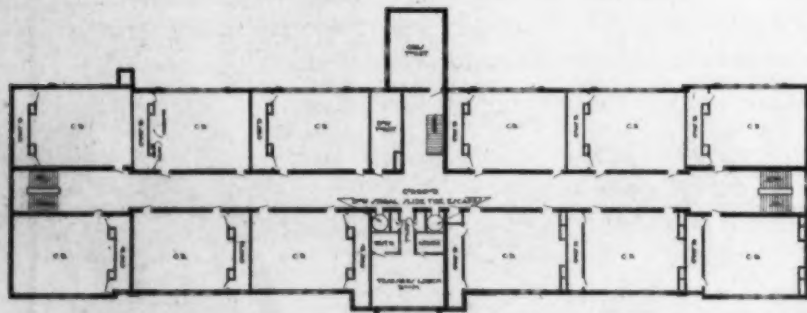
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Many architects are inclined to overlook the human safety element in designing a building. Of what avail is beautiful architecture in times of fire and panic? Every school building should be so equipped that the precious lives confined within its premises can escape in utmost safety.

The Baltimore Board of Education demanded sufficient fire exits in School 65 (plan of which is shown below) to make it absolutely safe from the dangers of fire. The architect, E. H. Glidden, specified two Dow Spiral Slide Fire Escapes in addition to the two stairways. The basement and corridor walls are enclosed in fire resisting materials, while the class rooms are of wood joist construction.

Dow Fire Escapes have an exit capacity of two hundred lives a minute, equaling that of four ordinary stairways. The installation price is one-third less than the cost of the most simple concrete stairway.

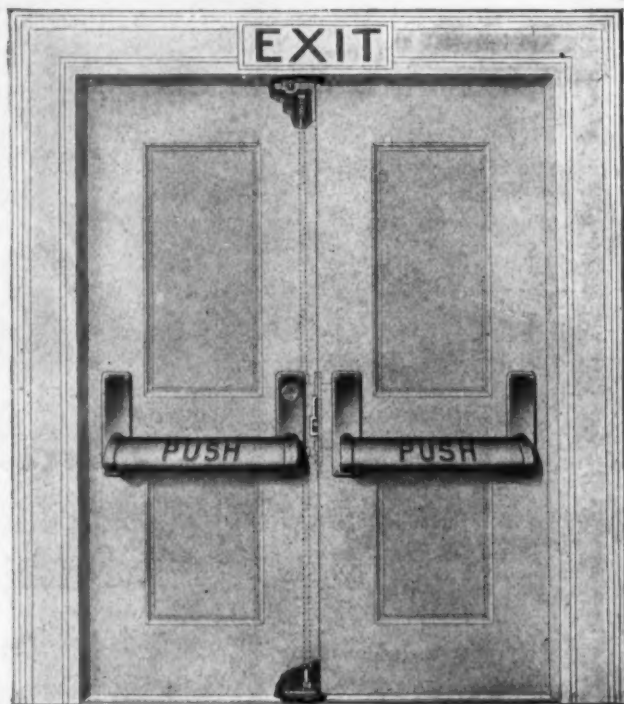
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DOW SPIRAL SLIDE FIRE ESCAPE

Quick exit assured Safety provided

Members of school boards and other officials on whom the responsibility rests should make full provision for protection to life in case of panic by the use of this safety device.



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Fire Exit Door Bolts

as illustrated above, are attractive in appearance, strong in construction and quick in action. The construction is such that in operating the push bar the hands or arms cannot be caught between the bar and the door.

They have a wide push bar which projects only 2½ inches from the surface of the door, permitting the door to swing wide open so as not to obstruct passage through the doorway. Slight pressure on the bar at any point will release the bolts instantly. All edges and corners on the bars and brackets are carefully rounded, eliminating all possibility of wearing apparel becoming accidentally caught.

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It is a fireproof floor and roof construction that is positively fireproof, more substantial and less expensive. It provides absolute resistance against fire, vermin and decay, and is a positive insulation against change of temperature and dampness.

Write for descriptive and illustrated literature, including views of installations and draftsman's drawings—designating the principle, construction and obvious advantages of Republic Two-Way Fireproof Floor and Roof Construction. It is furnished free for the asking.

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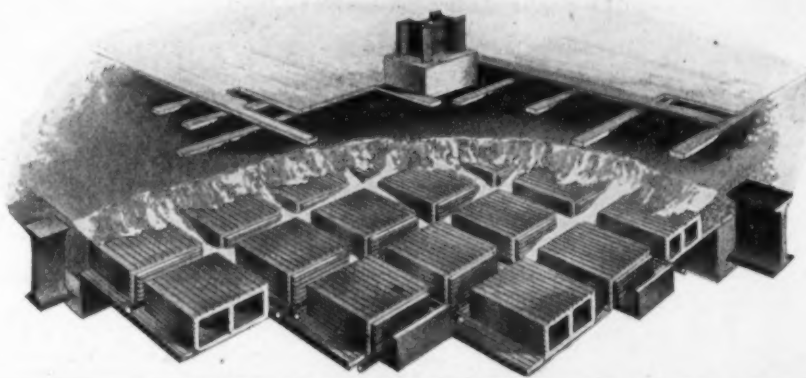
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Slightly illustrated—at right—the principle of Republic Two-Way Fireproof Floor and Roof Construction—as thoroughly described and pictured in literature furnished on request.



Several hundred schools are already equipped with Republic Two-Way Fireproof Floor and Roof Construction—full information given upon request.

(Concluded from Page 82)

—Louisville, Ky. The board of education has approved a proposal for the submission of a \$1,000,000 bond issue to the citizens in November. The bond issue is to provide funds for the erection of new buildings, the building of additions and the addition of fifteen playgrounds. In a special report on housing conditions, it is pointed out that the school buildings are seriously overcrowded and that all sorts of makeshifts are resorted to in order to accommodate an overflow of approximately six hundred students.

—Attorney General Charles I. Dawson of Frankfort, Ky., in a recent opinion, holds that livestock and other personal property on farms outside graded school districts, but belonging to persons living within such districts, are taxable for the county common schools and not the graded districts. The attorney general points out that livestock and personal property located on farm lands outside the graded district and used in connection with farm land, undoubtedly has a taxing value outside the district, and should be listed for taxation in the common school district, where it actually is located.

—Seymour, Ind. A proposal of the board of education to spend \$100,000 for additions to two school buildings has drawn the fire of opposition, especially from citizens who desire a new sewerage system before bonds for any other purpose are issued.

—Paducah, Ky. A drive for a \$25,000 fund for the equipment of the Augusta Tilghman High School was successfully carried with a large over-subscription.

—Covington, Ky. The local bankers recently came to the assistance of the board of education in meeting a financial difficulty which threatened to close the schools before the end of the term. The arrangement entered into by the board and the bankers permitted the schools to remain open until the regular apportionment of city taxes became available.

—School expenses have been considerably reduced in a number of cities in Washington. Wenatchee has eliminated some departments to meet a reduced budget. Cle Elum has employed the teachers on a nine months' plan, for \$100 less than they received for ten months' school.

The saving effected is estimated at \$2,500, but against this must be figured a loss of \$1,000 of state school money paid on the daily attendance basis, as well as the loss of a month's schooling.

—The board of public education of Philadelphia, on May 21st, distributed among the school children and patrons, a one-page leaflet telling of the housing needs of the schools and the defects which needed to be remedied. Emphasis was laid on the fact that the building program must keep pace with the growing needs of the city and that the entire school plant must be put in an up-to-date condition.

The leaflet followed action by the board, authorizing the issuance of a new building loan of five million dollars which is to provide additional buildings, replace old, worn-out structures, provide proper lighting and make possible the purchase of additional school sites. The leaflet is the first of a series to be issued from time to time as it is the intention of the board to inform the public of conditions with regard to the public schools.

—Two important school problems which have been the subject of state investigation in New York State are expected to result in legislation next year that will protect public school finances. The biggest problem is that of meeting the rapidly increasing school costs which most cities are at or over the constitutional debt limit. Closely related to this problem is that of determining whether or not boards of education are to have complete control of the school funds.

The mayors-regents conference commission, in cooperation with Teachers College of New York, has worked out a plan for a survey to be made of municipal finances with a view of determining the ability of cities to finance education adequately. It is also planned to make a study of the existing charter regulations to determine what changes will be necessary if the boards of education in cities are to have financial independence. It is proposed to establish an effective cooperation between the commission and the joint legislative committee, since the latter is in favor of legislation which will give boards of education control of funds, discretion in the determination of budgets, and power to fix the tax rate for schools. It is conceded that some

definite plan must be worked out to fix a limit upon municipal and school budgets.

—Middletown, O. The school board has taken steps to carry out a comprehensive school building program, which is to include the erection of a large high school to accommodate 1,200 students. The plans which have been accepted, provide for a building 450 feet by 120 feet and three stories in height. The building will be designed along Grecian or Classical lines and will be constructed of brick and stone material. There will be 25 classrooms in addition to special rooms for the teaching of vocational subjects, a gymnasium and auditorium.

The program also provides for the erection of two twelve-room grade schools to replace the present Charles Street and East Third Street Schools. The entire program is under way and it is expected that the new school plant will eventually equal that of any other city in the state.

New York, N. Y. The board of education has refused to approve a recommendation of the board of superintendents empowering the latter board to grant leaves of absence, with or without pay, to the members of the teaching and supervising staff, for the purpose of attending conventions, receiving degrees, or for other reasons satisfactory to that board. They will be excused by resolution as previously.

—A department of research and statistics, as a part of the Cincinnati school system, appears to be a future possibility. It has been found that requests for statistics are becoming greater as time goes on and it is believed that a statistical department can do this work more effectively and more economically than the instruction department. Supt. R. J. Condon has declared that out of the present investigation of the cost of various kinds of education will come a department of research.

—A new law passed by the state legislature of New Jersey increases the size of the State Board of Education to ten instead of eight members and provides that the two additional members shall be women. Mrs. Seymour Cromwell, of Mendham, N. J., has been appointed by the Governor to one of the places.

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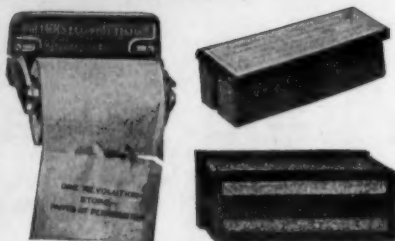
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Personal News of Superintendents

—Supt. R. A. Kent of Duluth, Minn., has resigned.

—Robert Browne has been elected superintendent of schools at Pittsfield, Ill., succeeding R. R. Kimmell.

—The salary of the state commissioner of education for Massachusetts has been raised from \$7,500 to \$9,000 by legislative enactment.

—Supt. W. D. Young of Carlisle, Ky., has been reelected for the coming year.

—Prof. George M. Baker, of the University of Kentucky, has been elected superintendent of schools of Fayette County, Kentucky. He succeeds Mrs. Nannie G. Faulconer, whose term expires on January first, next.

—Mr. P. C. Emmons of Kendallville, Ind., on August first, becomes superintendent of schools at Mishawaka. Mr. Emmons is succeeded by H. M. Dixon of Tipton.

—Mr. Walter A. Zaugg, superintendent of schools at Barnesville, O., has resigned to become a member of the faculty of the Pennsylvania Normal school, at Indiana.

—Supt. F. P. Timmons of Fremont, O., has been reelected for his seventh term, at a salary of \$2,800 a year.

—Supt. D. R. Murphy, of Anniston, Ala., has been reelected.

—Supt. D. B. Hoffman, of East Moline, Ill., will enter upon his sixteenth year of service with the opening of the new year.

—Mr. R. R. Tompkins has been elected superintendent of schools at Durant, Okla., to succeed G. C. Rorie.

—Mr. H. H. Ellis of Humboldt, Tenn., has been elected superintendent of schools at Columbus, Miss.

—Mr. Nahum Leonard of Keene, N. H., has

been elected superintendent of schools at North Andover, Mass., succeeding D. P. Dame, who retires on account of ill health.

—Supt. R. C. Smith of Pekin, Ill., has been reelected for the next year, at a substantial increase in salary.

—Mr. James F. Johnson of Lockhart, Tex., has been elected superintendent of schools at Mexia.

—Supt. David C. Porter of Bridgeton, N. J., has been reelected for the next year.

—Supt. J. C. Dukes of Dawson, Ga., has been reelected.

—Supt. Henry A. Hartman of Sidney, O., has been reelected for a three-year term.

—L. A. McKinley has been elected superintendent of schools at Perrysburg, O., to succeed J. A. Neitz. Mr. McKinley was formerly superintendent at Bowling Green.

—Mr. Arthur Deemer of Fargo, N. D., has been elected superintendent of schools at Cedar Rapids, Ia. The appointment is for three years and carries with it a salary of \$6,500.

—Mr. M. S. Mahan has been elected superintendent of schools at Martinsville, Ind.

—Supt. George McCord of Springfield, O., has been reelected for a five-year term.

—Mr. W. A. Sutton has been elected superintendent of schools at Atlanta, Ga., for the next year.

—Mr. Robert W. Burton, former superintendent of the Freeport (Ill.) and Stephenson County schools, died on May 16th at Colorado Springs. Mr. Burton who was in his 88th year, served as superintendent at Freeport from 1891 to 1894 and from 1894 to 1902 as head of the Stephenson County schools.

—Supt. Harvey C. Gruver, of Worcester, Mass., has been unanimously reelected. Beginning August first, Mr. Gruver will have a life tenure of office.

—Mr. J. O. Engleman of Decatur, Ill., has been elected superintendent of schools at Joliet. Mr. Engleman enters upon his duties on July first.

—Supt. A. B. Crawford of Lagrange, Ky., has been reelected for a term of two years.

—Supt. C. A. Waltz has been reelected at Xenia, O.

—Mr. R. S. West of Needham, Mass., has been elected assistant superintendent of schools at Clinton, N. J.

—Supt. R. L. Ervin of Steubenville, O., has been reelected for a two-year term, at a salary of \$3,864.

—Supt. M. G. Clark of Sioux City, Ia., has been reelected for a three-year term.

—Supt. L. P. Benezet of Evansville, Ind., has been reelected for a three-year term.

—Supt. H. S. Helter of Mansfield, O., has been reelected for a three-year term.

—Supt. E. M. Crouch of Kingsport, Tenn., has been reelected.

—Mr. R. V. Jordan has been elected superintendent of schools at Centralia, Ill., at a salary of \$3,600.

—Mr. L. L. Stanley of Oak Park, Ill., has been elected superintendent of schools at Chenoa.

—Mr. Clifford J. Scott of Wilmington, Del., has been elected superintendent of schools at East Orange, N. J. Mr. Scott was also reelected at Wilmington.

—Mr. Glenn W. Starkey, deputy superintendent of schools of Maine, has resigned to enter business. Mr. Starkey was for ten years a faithful and efficient member of the staff of the state superintendent. He served as acting superintendent for the period of one year when there was a vacancy in the superintendency.

Mr. Starkey in his work has been a source of strength to the state education department and the educational interests of the state. His grasp of his job, his quiet forceful manner, his absolute dependableness, have rendered him of unusual service.

—Mr. Sidney Pickens, Supt. of Schools at Batesville, Ark., has been reelected for his thirteenth year. During the summer he will act as instructor at the University of Arkansas.

—Mr. M. E. Ligon, for the past two years superintendent of schools at Henderson, Ky., has accepted the principalship of the high school at Ashland, at an increased salary. During Mr. Ligon's incumbency, a Junior High School has been organized and the salaries of grade teachers have been advanced fifty per cent.

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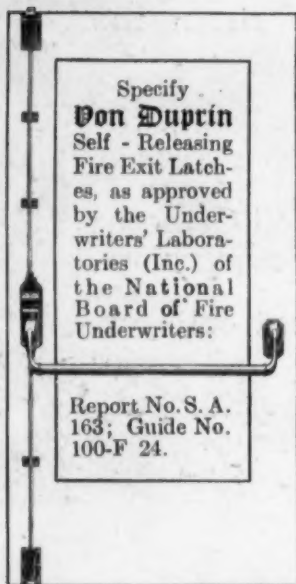
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School Board News

A TRIBUTE TO A SCHOOL BOARD.

Professional schoolmen are usually cool when the merits of the school board are discussed and many measure the value of individuals or the group on motive of self-interest rather than educational service to the community. Quite in contrast to this attitude is a tribute to the members of the school board at Savannah, Ill., prepared by Mr. C. H. Levitt and printed in the annual of the schools. It reads:

Our School Board.

At this time when the country is awakening to the seriousness of teacher shortage and the means of remedying it, a still greater emphasis should be directed toward an appreciation of the scarcity of straight-grained A-1 timber for school boards. A good school board makes a good school, and if we are a good school, unhampered by politics or favoritism of any kind, and quickened by the urge of organized purpose, it is because of such:

F. E. Stiles, President, broad-minded and constructive businessman. His years of active service in the schools of Illinois, supplemented by a grasp of the fundamental educational problems of the moment, make him an invaluable executive.

George D. Brown, Secretary, a bulwark of first aid in all matters of school sanitation, school architecture and building needs. He has saved the district thousands of dollars through his intimate knowledge of materials and their most serviceable makers.

Judge Brearton, pioneer in making possible an adequate fund for teacher pay and school progress. With him, the betterment of boys and girls comes first and his own personal interests a thousand miles behind.

J. D. Fulrath, city builder and booster de luxe. He has used more brick in building a greater Savannah than any one man. If teachers taught the way Fulrath puts things over, they'd all be in the million dollar class.

David Hammond, a man who is always on the job when personal service and careful consideration are demanded in furthering the best interests of Savannah. As a school board member he always bats a thousand per cent.

Tom Taylor, public-spirited and enthusiastic worker for any better Savannah movement. When there is a question of who will take his coat off and go the limit for a worthy civic project, the answer is "get Taylor".

W. G. Law, head of one of the oldest business houses and newest member of the board, his knowledge of organization and administration is an asset which adds to the balance of the group.

AMONG BOARDS OF EDUCATION.

—The amended school bill, reducing the number of members of the school committee of Marblehead, Mass., from nine to five, has been passed by the Massachusetts House. Under the bill, there will be no election of members next year and the duties of the board will be cared for by six members. In 1923 two members will be elected for terms of three years, as successors to those whose terms expire.

It is provided that at the annual meeting in 1924, two new members shall be elected for three years and one for one year, as successors to three members whose terms expire. Thereafter, the board is to be composed of five members, and at each succeeding election vacancies will be filled by appointments for three-year terms.

—The New York "Call" has recently charged that the board of education of the "first city" maintains a "radical" blacklist and that persons whose names appear on the same, are automatically barred from appearing on the platform of any public school. It is charged that the list was prepared under the direction of Eugene C. Gibney and with the approval of Supt. W. L. Ettinger. Mr. Gibney in answering the charge, maintains that the board reserves the right to determine the qualifications of those giving lec-

tures or entertainments in schools. He declares that there is no hard-and-fast rule automatically barring any person from the schools and no special list of radicals. Each case, he said, is treated separately as it comes up.

—Morgantown, W. Va. The school board has refused to rescind a rule barring teachers who attend dances during the school year. The board in a formal statement, gave its reasons for declining to alter its decision.

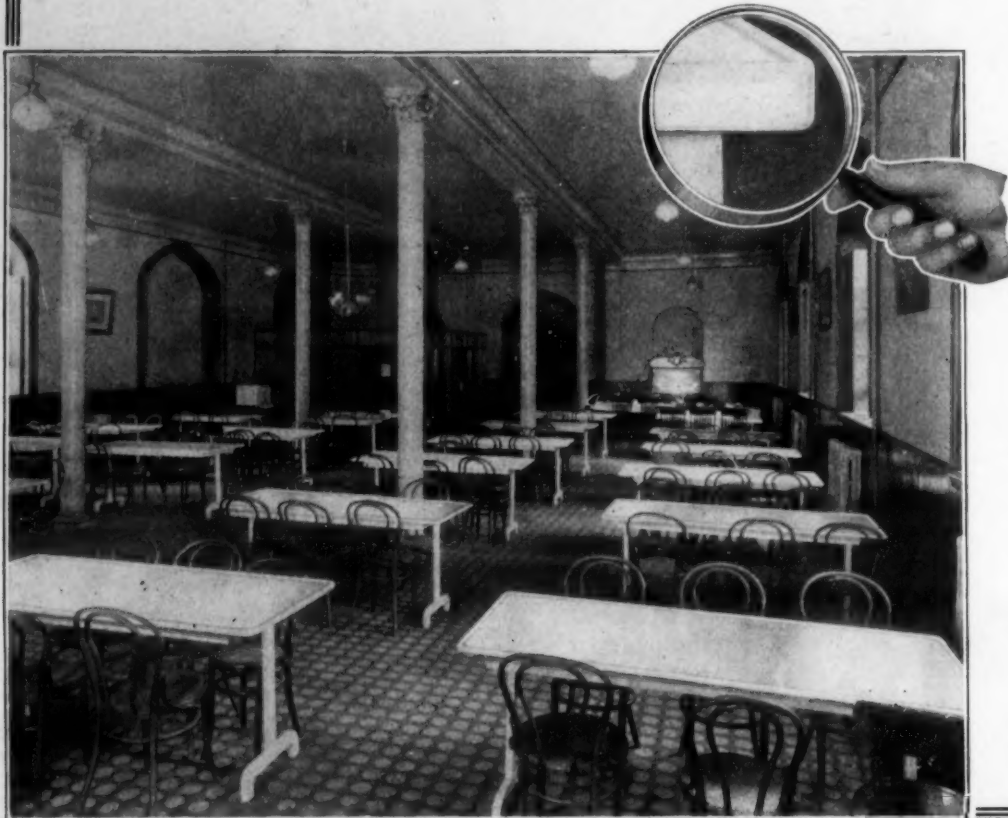
—The Hamilton County (Ohio) board of education has begun suit in the Supreme Court to reverse a ruling of the Court of Appeals in a \$25,000 damage suit, in which damages were awarded by the lower court to William McHenry, Jr., 11-year-old Cincinnati boy. The case came to the supreme court after the lower court had decided in favor of the board and the Appeals Court for the boy, who had sued on the ground of total disability incurred through the extraction of a tooth by a school dentist. Fracture of the bone resulted from the extraction and blood poisoning developed, resulting in the amputation of the boy's left leg above the knee and producing other serious results.

—Baltimore, Md. The investment of full responsibility for the administration of the schools in the superintendent, as recommended by the school survey committee, will offer little justification for the continuance of a school board, according to Mrs. Charles J. Ogle, advocate of one-man control of municipal executive departments. Mrs. Ogle holds that the board is not necessary as an intermediary to the public, as an advisory council to the superintendent, or as a means of projection of the lay viewpoint, believing as she does that the latter viewpoint is capable of projecting itself unorganized.

—Pawtucket, R. I. The board has adopted a resolution providing for the eventual abolition of high school secret societies. The resolution provides that any student who is a member, or who shall hereafter join a secret society, will not be permitted to represent the high school in any athletic, or literary contest, or hold any school or class office, or participate in any school activity other than the regular schoolroom instruction or recitation.

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—Pupils who at present are members of secret societies will be exempt from the rules provided they give immediate notice to the principal that they are members, and provided also that the members engage in no secret society activities on the school premises, or elsewhere whenever and wherever they may take place.

—Auburn, N. Y. The school board has registered its opposition to the present superintendent of schools with the decision of the majority faction to demand his resignation. The demand for the resignation followed the recent victory of the opposition at the school election.

—The Caddo Parish school board of Shreveport, La., has completed arrangements for handling the sale of school books for children of the parish. The board has equipped a room in the courthouse basement as a repository or store-room for books. In the past the books have been handled by two city book dealers and the small profit has made them rather willing to turn the work over to the school board.

—Edmonds, Wash. Differences of opinion as to the manner in which the schools of the district shall be administered has led to a petition for the recall of school directors L. G. Waggoner and A. F. Chase, and Supt. L. C. Wright. In all six petitions have been circulated.

—The circulation of the petition for the recall was caused by the failure to tell how the citizens of the district stood on school matters. One of the important questions before the schools is the matter of taxation and since the policy of the local board had not been in the direction of economy or harmony, it was felt that the members should be eliminated for the sake of the future efficiency of the school system.

—The Cincinnati board of education need not pay physicians' bills or any other expenses due to the injury of a child while attending school, according to an opinion rendered by the city solicitor. This opinion reads as follows: "A board of education is not liable in its corporate capacity for damages for an injury resulting to a pupil while attending a common school, from its negligence in the discharge of its official duty in the erection and maintenance of a common school

building under its charge, in the absence of a statute creating liability."

—Mr. C. P. Cary, retiring superintendent of the Wisconsin school system, in a conference with the senate education and welfare committee of the state, has urged the abolition of the office of state superintendent of public instruction as an elective position. Mr. Cary favors a resolution leaving the determination of the method of election of the superintendent to the legislature.

The present stand of the superintendent of public instruction is a reversal of his former attitude, which has been steadfastly against the board of education suggestions. As a substitute, Mr. Cary suggests an elective board, with one member from each congressional district, the board to choose the superintendent or commissioner of education. Mr. E. A. Fitzpatrick, secretary of the state board, is in agreement with Mr. Cary in his stand on the board plan.

—Haverhill, Mass. The state supreme court has rendered a decision in which it holds that the regulation of the school board regarding exemption from vaccination is not invalid or discriminatory. It holds that it is not the intention of the legislature to grant exemption from vaccination during the entire period of a child's school attendance, and that the certificate is limited to the period when the child's condition unfits him for vaccination. The decision was given in the case of Percy B. Spofford against the school board of Haverhill, in which a mandamus was asked permitting three children to attend school without complying with the school regulation.

—Cleveland, O. The school board will shortly inaugurate stricter rules and supervision governing dancing in school auditoriums and gymnasiums. The necessity for the rules was made evident following a personal investigation made by Asst. Supt. G. E. Carrothers and Playground Supt. Marie Wilson.

—Pittsfield, Mass. The use of rubber hose, straps and whips on school children as a means of punishment, has been discontinued by order of Supt. John G. Gannon. A light rattan applied to the palm of the hand is sufficient punishment, in the opinion of Supt. Gannon.

—The attorney general of Texas has ruled that dealers in state adopted textbooks may charge more for such books than the contract price fixed by the state. The opinion was given in a case from Dallas, where a man claimed he was charged 90 cents for a book which the state listed at 70 cents.

—Governor Cooper of South Carolina has signed the school attendance law passed by the last legislature. The law gives counties and school districts local option as to truant officers and abolishes the state-wide provision for such officers. A new feature of the law is the provision for strict punishment of violators.

—A special committee of the State Board of Education of Rhode Island has proposed the establishment of a bureau of research for the state. It is proposed that the state board and the three institutions of higher learning shall each appoint a representative for a definite term of years, these representatives to constitute a bureau of cooperative research. The members of the bureau are to choose from their number a head to be known as the state director of educational research.

The three institutions will also appoint from their faculties one instructor each, who will give one-half time to the field work in educational measurements and to the interpretation of the results obtained.

The state board will also appoint annually three research scholars in educational measurements with a stipend of \$500 for each scholar. These scholars will be graduates of approved colleges and will be assigned by the state board for work in one of the three higher institutions. They will assist in the study and interpretation of results of surveys to be conducted in the several localities of the state, will act as students in the field of educational measurements, and eventually become candidates for higher degrees. Such students will be given free tuition by the institution to which they are assigned.

The functions of the bureau, as outlined by the committee, will be (1) To awaken interest in the work of educational measurements in the cities and towns of the state, (2) To offer assistance

(Continued on Page 93)



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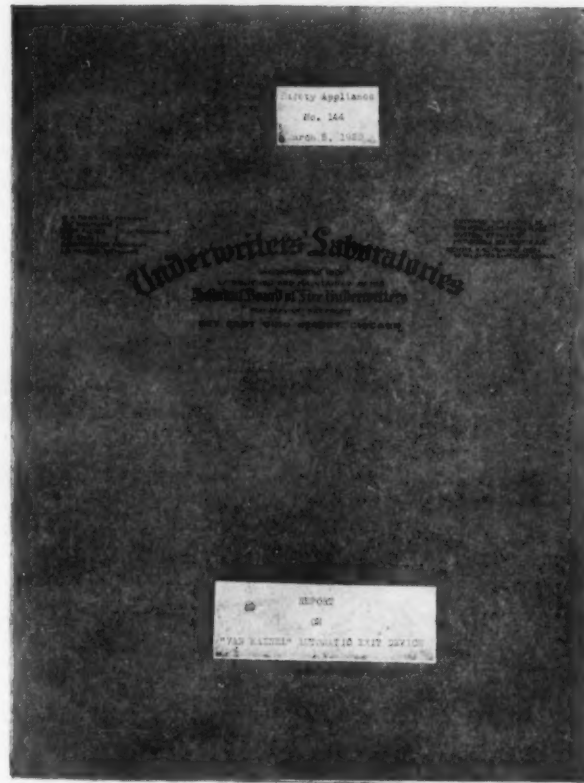
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(Concluded from Page 90)

to communities desiring advice and aid in making such surveys, and (3) To give the necessary publicity to the results of the survey. It is the purpose of the state to make the bureau a clearing house for the collection and dissemination of all news of importance relating to educational conditions in the state as revealed by the surveys, and to give its advice in matters relating to the field of its knowledge and interests.

—State aid for the establishment of schools for non-English speaking adults is provided for in a bill passed by the Connecticut house. It authorizes towns to establish such schools for 75 sessions upon application of twenty or more non-English speaking adults. The state will pay \$2 for each pupil attending regularly the specified number of sessions.

—The Indiana State Board of Education has adopted a plan for the reclassification of state high schools. The change provides for commissioned and accredited schools. The commissioned schools will be of three classes, first, those which meet all requirements and have a nine months' term; second, those which meet all requirements and have an eight months' term, and third, those which meet scholastic requirements but which do not meet other requirements of the other two classes. Accredited schools may be approved for one, two, three or four-year courses, provided they meet the requirements for those courses. All certified schools are hereafter to be known as accredited schools.

—The New York City board of education has asked Supt. Wm. L. Ettinger to make a study of the adequacy of supervision for cooking teachers in the public schools. The investigation which has been recommended by Harry E. Chambers, a member of the board, is intended to determine the need for promptly reporting conditions and conduct on the part of teachers which are detrimental to good order and efficiency. In demanding the investigation, attention was called to the case of a teacher of cooking who was suspended and later found guilty of charges of unauthorized absence from duty and conduct prejudicial to the good order and efficiency of the service.

—New York, N. Y. The board of education has

reopened the vacation schools and playgrounds for the summer with the transfer of funds sufficient for meeting the cost of instruction and supplies. It has been decided to use the available balance of school funds for this purpose and to await the appropriation of the estimate board to meet the deficit in the year's budget.

—At one time the School Board of Milwaukee had 42 members appointed by the aldermen, ward representation and short terms. Then the board was reduced to fifteen members and elected at large. Recently a movement was started for a further reduction in numbers to nine and for district representation.

A teachers' committee making a study of the subject of school administration bodies reported:

"The schools are a city function and problem and not a ward or district affair. Such a plan of election is vicious and reactionary and lends itself to pork barrel methods of petty politics, to be abhorred and kept out of school affairs at all costs.

"The present school board is not large and unwieldy and the attendance record of Milwaukee school directors shows a high average. Yet the board is large enough to give a diversified representation and expression of opinion. The school board should meet the following requirements: First, it should be large enough to give a diversified and general representation; second, the directors to give the best service should have long terms of office; third, they should represent the city at large rather than local units; fourth, the board should be democratic in principle and practice."

NEWS OF SCHOOL OFFICIALS.

—Mr. P. O. Smith, business manager and purchasing agent of the board of education of Tulsa, Okla., has recently resigned to become secretary of the Tulsa Livestock and Industrial Exposition. Mr. Smith who was the first incumbent of the newly created position, was elected to office in May, 1915. During his term of office, the number of teachers has increased from 167 to 550 and the business transacted by the board has reached the enormous cost of \$2,000,000 annually, including \$2,850,000 in bond issues alone.

—Mr. C. E. Farnsworth has been appointed school clerk at Anaconda, Mont., succeeding R. B. Lewis.

—Mr. Huntley N. Spaulding has been appointed chairman of the State Board of Education of New Hampshire. As director of the activities of the state board, Mr. Spaulding has a man's work to perform, and it is his purpose to "sell" the school law to the people of the state. It will be his work to convince the citizens of the merits of the law and to place the state in a position to assume leadership in the matter of equal educational privileges.

—The first woman to be appointed to the Vermont Board of Education is Mrs. John Redwood Fisher of Arlington. Mrs. Fisher widely known in the book world as Dorothy Canfield, succeeds Frank H. Brooks.

—Mr. Simon Gratz, for 51 years a member of the board of education of Philadelphia, on May 10th announced his resignation. Mr. Gratz as a member of the board for more than half a century, took a personal interest in its activities and put forth tireless efforts in furthering the progress of the schools. He was recognized by his colleagues as a master of details connected with the school system.

—Mr. John McFadden, president of the board at Weehawken, N. J., died on May 12th from a fracture of the skull which he suffered in a fall.

—Mr. Clifford J. Scott of Wilmington, Del., has accepted the superintendency at East Orange, N. J., which was tendered him following the departure of Mr. Broome to Philadelphia.

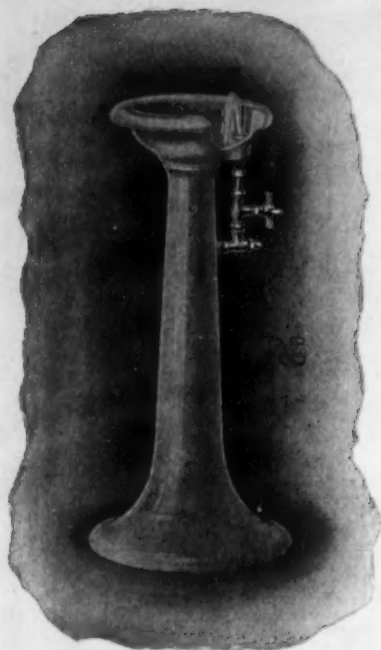
—Mr. M. W. Longman, formerly superintendent of schools at Owosso, Mich., has been elected as head of the school system at Muskegon, Mich., to succeed Paul C. Stetson. Mr. Longman is a graduate of the University of Michigan and has recently taken a course at Teachers College, New York City.

—Mr. Charles C. Bishop of Portage, Wis., has been elected superintendent of schools at Oshkosh, to succeed M. N. McIver resigned.

—Prof. J. E. Bright of Oakdale, La., has been elected superintendent of schools at Humboldt, Tenn., to succeed H. H. Ellis resigned.

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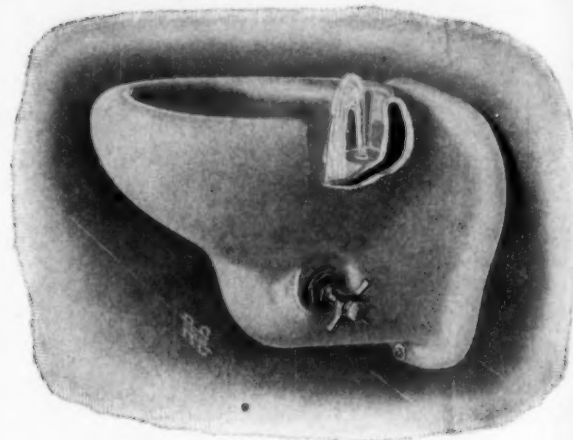
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base of recess, which prevents bacteria from falling back upon the jet, thus, eliminating all possibility of contamination. The copious drinking feature of the vertical stream fountain is retained, as the mouth comes in contact with the stream at a point where it loses its momentum.

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TEACHERS' MARKS AND PUPILS' RECORDS.

To the Editor:

Seeing in your March issue a rather serious discussion of the comparative merits of marking pupils by per cent or by letters, A, B, C, etc., has set me to thinking and here are a few of my thoughts.

Of the two methods of comparing pupils, one with another, the one is just as harmful as the other. Have we never been moved by the masterly influence of Col. Francis W. Parker who spent his life urging us to drop the traditional wherever found useless or harmful? Have we forgotten his magnificent tirades against marks as standards for promotion?

Much is said in modern pedagogy about Motivation, but we are very slow to adopt ideal motives in our practice. Is it right for a child to be striving always to get the advantage of his companion, or should he be striving ever to exceed his own best record? Is there any better motive than to do right because it is right? Is that education a success which gets obedience by threat, or gets good lessons by rewards? Instead of marks, letters, or percents, would it not be better for the board to supply a box of pennies and give them out one for a "fair" lesson, two for a "good" lesson, three for a "very good" lesson and four for "excellent"? The motive and results would be just the same.

Statistics show that teachers give a little better mark to girls than to boys and that a teacher gives a little higher mark in the morning than she will in the afternoon. An arithmetic examination paper was handed successively to several mathematics teachers. One marked it 0, one 40, one 75, and one 100. Most teachers start marking at about 75 and the second paper if not so good is 74 and a better one is marked perhaps 80. Other teachers call the poorest pupil in the class 60 and the others varying up to 100. I once knew a school in which no child was ever below 90 and all marks were between that and 100. Parents loved those teachers and when the children moved to neighboring schools and received 0's and 50's the new teachers were adjudged cantankerous and wanting in judgment.

There is some justice in marking the poorest pupil about 50 or 60 for, given a Socratic teacher, it would be a chump of a child who could not guess the answer about half the time.

"Standard tests" offer a remedy for this farcical outgrown fetish. By a judicious use of intelligence tests we may use a pupil's I. Q. as the standard of what he ought to do. There we shall cease to classify pupils on the basis of intelligence but group them according to age, or better, according to their "social age." The object in grading or grouping pupils is so to place them that they may most comfortably live and grow. Children play best and work best with children of about their own age without much regard for mental attainments. We must readjust our courses of study to this more flexible assignment of work. Problem projects, (if any one can explain the meaning of the term) will be adapted to the individual and the pupil whose I. Q. is 130 will do about twice as much as he whose I. Q. is 65.

Some day a thoughtful parent will enjoin teachers for comparing his child with his neighbor's children by assigning marks which may be used publicly. Has any teacher a right to publish that Jones' son is 10 per cent smarter or 20 per cent better behaved than Smith's son?

F. W. Nichols,

Superintendent, Schools of District 76.
May 16, 1921, Evanston, Ill.

THE MARY FISHER HOME.

The Mary Fisher Home which was established in 1900 at Tenafly, N. J., owes its origin to Miss Mary Fisher, a school teacher, who sought to provide a shelter for broken-down teachers and professional men and women. The idea of a home for brainworkers was based upon a similar institution which Miss Fisher had seen in England many years ago. It is open to men and women, regardless of race, sex or creed.

The Fisher Home is the only institution of its kind in the U. S. and is commended by well-known authors who have taken a great interest in it. More than five hundred workers in distress have been received within its hospitable doors. Every year the leading authors and musi-

clans give the home a benefit at the Waldorf in New York City.

Mrs. J. Calvin Mead is president of the Home and Miss Caroline Cauter is treasurer.

BUILDING AND FINANCE.

—New York, N. Y. President A. S. Prall has appointed a special committee of three to prepare the 1922 school budget. The committee has been given the task of providing funds for running the schools during the next school year. The problem has been rendered more serious by reason of the fact that before the needs of 1922 are provided for, approximately \$17,500,000 or revenue bonds yet to be issued must be redeemed to meet the deficit in the year's budget.

It is apparent that it will be necessary again next year to finance a considerable part of the current school expenses by bond issue. The deficit is estimated to reach a higher point than this year, and the total budget estimates of the several departments will total more than \$100,000,000. It is pointed out that the 4.9 mill provision in the state law will not afford any considerable protection to the schools, except that the board of estimate will provide in the city budget for that amount.

—Seattle, Wash. Reduction in the teaching and supervisory staff of the schools and the elimination of certain courses, notably one period bench work and cookery in the elementary schools, and of gardening, all to accomplish a reduction of \$250,000 in the school levy have been voted by the school board.

A minority report for the committee of the whole, presented by E. Shorrock, president of the board, charged that the economies indicated are not sufficient, and that the majority, by recommending them, had ignored the conference of county, municipal and port officials for the reduction of municipal expenditures. Shorrock's report stated that as municipal expenditures, no pronounced reduction in taxation could be made without a substantial cut in the payroll. The action of the majority holds teachers' salaries for 1921-22 at the standards of the current year.

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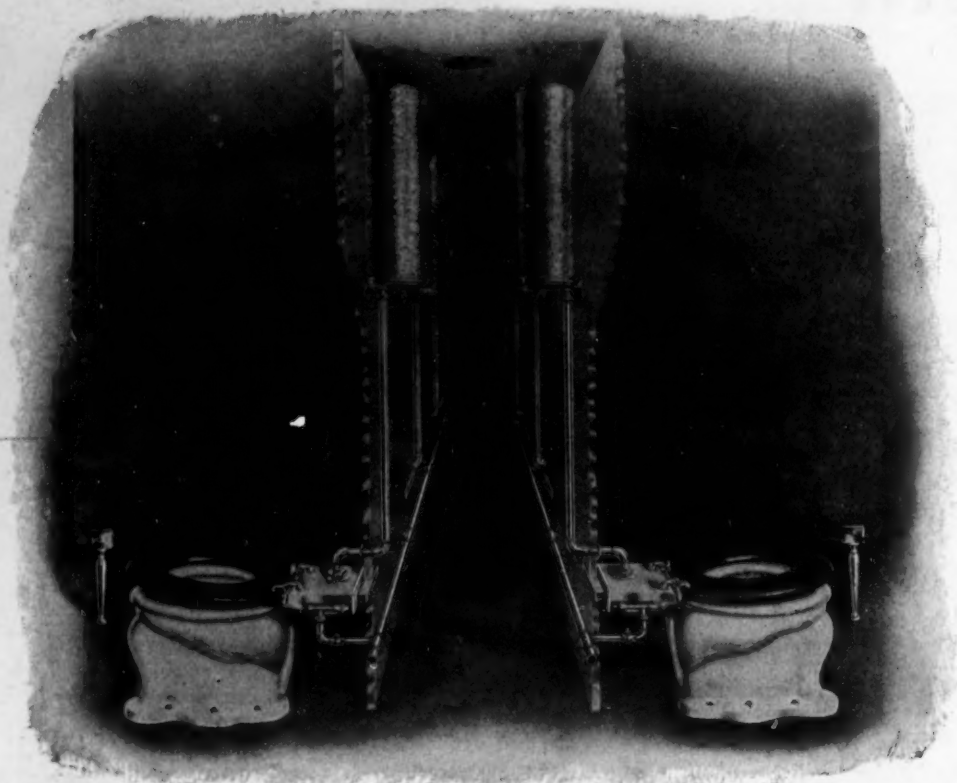
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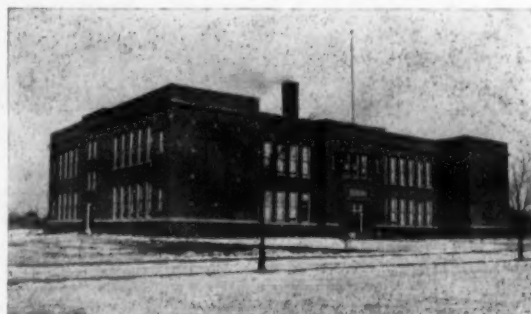
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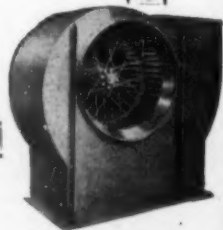
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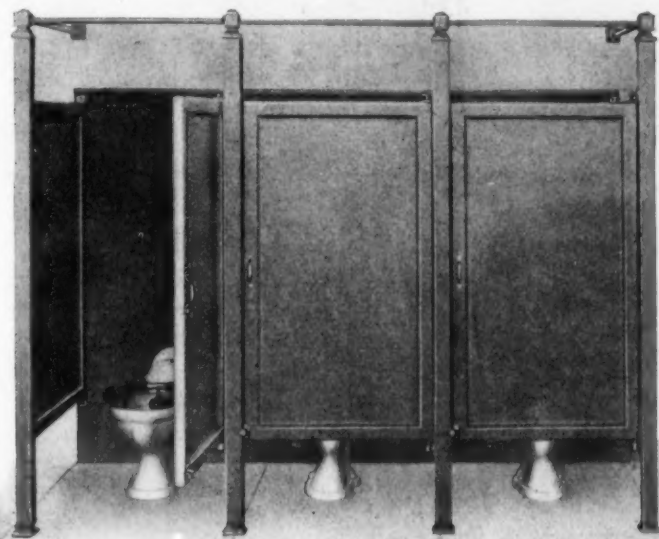


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All parts are electric welded, insuring a smooth, sanitary and rust resisting surface. They are easily erected—are permanent, neat in appearance, and once installed are guaranteed to last the life of the building. They are made to meet every requirement, and can be furnished with utility space, if desired.

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PUBLICATIONS.

Annual Report of Secretary of Board, Spokane, Wash., for the year ending June 30, 1920. E. A. Thomas, secretary. Contains the financial statement and tables showing detailed expenditures and outstanding warrants.

Rules and Regulations and Salary Schedule for Teachers at South Bend, Ind. W. W. Borden, Supt.

A History of Public-School Support in Minnesota. By Frances E. Kelley. Research publications of the University of Minnesota. The author has not confined herself to a description of Minnesota's existing system of school support, but has traced the genesis of the system from the time of the state's admission into the Union. Her study presents us with both an account of what now is and an explanation of why it is. It is pointed out that a clear knowledge of present conditions and a knowledge of scientific methods of school support are necessary for the formulation of salutary legislation. The generosity of the state's revenues and the importance of the school system make the problem of school support one which deserves adequate study and a worthy solution.

A History of the Teaching of Chemistry in the Secondary Schools of the United States Previous to 1850. By Samuel R. Powers. Bulletin No. 13, of the Research Department, University of Minnesota. Mr. Powers' study though treating only one subject and that for a very brief period, will provide students with an explanation of many conditions and factors in the present educational situation, and with the basis of an illuminating chapter in educational and social philosophy. He presents in a clear and interesting manner, the many factors which brought chemistry into the foreground of social and intellectual interests and secured for it a place in the schools.

Report on the Rosenwald School Buildings, at Nashville, Tenn. By F. B. Dresslar. Bulletin No. 1, of the Julius Rosenwald Fund, Nashville, Tenn. The most significant and substantial of the forward movements in the South and one that is touching more people and vitalizing more interests than any other movement of its char-

acter is the Rosenwald School-Building Program. Mr. Rosenwald at the present time has provided a budget of something like \$140,000 a year for the building of rural schools for negroes in eleven southern states. The present report presents the results of a study of schools erected in the several states and the recommendations which have been made for corrections and changes in design, location and sanitary arrangements.

Program of Competition for a High School Building at Hartford, Conn. The pamphlet discusses such important phases of the competition as the selection of the architectural adviser, the submission of designs, architects' fees and prizes, planning and cost of building, special requirements of structure, preparation of drawings, conditions of contract between architect and owner, supervision of the work, payment for professional service, and details which shall govern the design and arrangement of the building.

Structural Defects Influencing the Spread of Fire. Suggestions for their elimination and protection. Prepared by committee on manufacturing risks and special hazards. National Fire Protection Association, 87 Milk St., Boston, Mass. The pamphlet discusses sheathing and plastering, attics, stairways, elevators, floor openings, wall openings and skylights.

Forty-ninth Annual Report of the Secretary and Treasurer of the School District of Kansas City, Mo., for the year ending June, 1920. James B. Jackson, secretary of board. Includes the secretary's financial report and statistics relating to the expenditures for the several schools.

A Comparative Study of the Elementary Schools for White and Colored Children in the 67 Counties of Alabama. By Thomas E. Benner, statistician of the state education department. The study does not pretend to great refinement of method. The situations which it indicates do, however, check with the judgment of those most familiar with educational conditions in the state. The study is based on the average of the scores of ten phases of the educational situation in each of the counties, a method used by Dr. L. P. Ayres in his "index number" study of state school systems. The value of the study, in the opinion of

the statistician, is that it enables the counties to see their own weaknesses and to devote their energies to correcting them. The report contains several graphs and tables explanatory of the text.

Illinois Arbor and Bird Day Book for 1921. By Francis G. Blair, state supt. The book contains poems, songs and articles appropriate to the observance of these days in the schools. It is well illustrated with fine halftone engravings that make the text more interesting to the reader.

The Efficiency of Oregon School Children in the Tool Subjects. Series No. 1, November, 1919, of the School of Education, University of Oregon, Eugene. The pamphlet represents the results of a study of efficiency of Oregon school children undertaken by the Bureau of Research of the University during the year 1918-19. The work which was confined chiefly to the grades from the third to the eighth inclusive, included tests in the subjects of arithmetic, grammar, spelling, reading and handwriting, also some work in the subjects of reading and algebra in the high school. Eleven cities of the first class, fifteen districts of the second class and about one hundred villages of the third class did the testing. In the work six standard tests were used, embracing those of Curtis, Kelly, Gregory, Stone, Ayres and Monroe.

Laws and Regulations Relative to Certification of Teachers. Bulletin No. 1, 1921, of the National Catholic Welfare Council, Washington, D. C. The material was prepared by Mrs. Katherine M. Cook, of the U. S. Bureau of Education and represents an abridgement of a manuscript of the Bureau which is to be issued during the coming summer. It has been prepared at this time to meet a demand of the Catholic educators for information relative to the certification of teachers in diocesan schools, and to hasten the day when teachers in private and parochial schools will hold the same legal certificates as public school teachers.

Teachers' Salaries in Certain Endowed Colleges and Universities of the United States. By Trevor Arnett. Series No. 7, Publications of the General Education Board, New York City.

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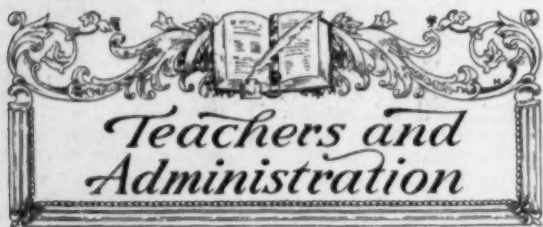
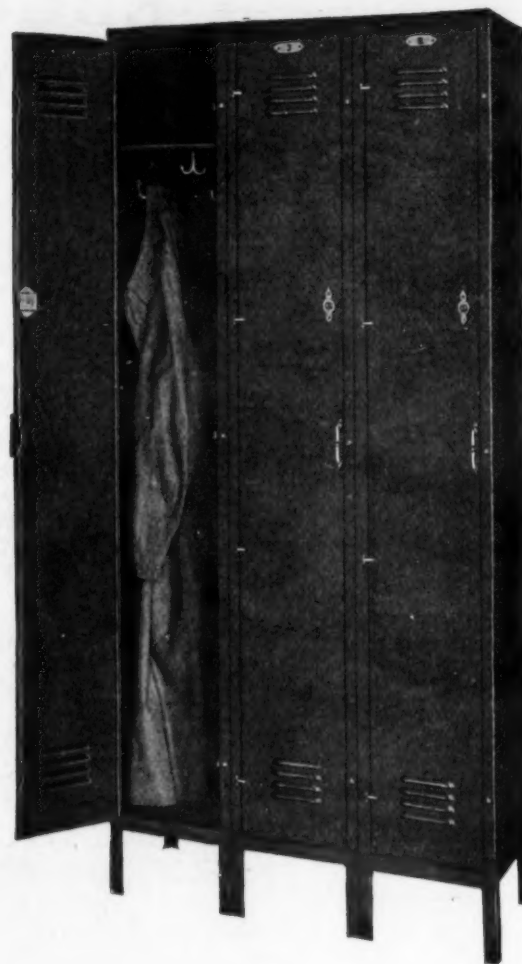
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PERMANENT TENURE IN DETROIT.

The Detroit (Mich.) board of education, at its meeting on April 14th, passed an amendment to its bylaws, by which permanent tenure of position is insured to all teachers who render satisfactory service.

Teachers will be divided into two groups (1) probationary, and (2) regular. The probationary group consists of teachers who have been in service less than one year and such other teachers who are placed in this classification because of unsatisfactory service.

A probationary teacher who has rendered a year of satisfactory service may be given a continuing contract. If her service is not satisfactory a probationer may be dismissed at the end of one year or continued as probationary a second year. If service is still unsatisfactory such teacher must be dropped from the lists at the end of the second year by the superintendent.

The regular teacher will be given a continuing contract this year and will receive each year the regular schedule increase for the class of position held until the maximum is reached, without going through the routine of renewing the contract annually.

The annual institute fee will simply be deducted from the September check each year and save the individual teacher the trouble of making the trip to the administration building to pay the required fifty cents or one dollar.

Teachers who plan to resign or take leaves of absence to pursue further professional work or on account of poor health will be required to notify the assistant superintendent in charge at least four weeks before such action is contemplated.

A teacher with a continuing contract may be placed upon probation at the end of any semester if the work of such teacher proves unsatisfactory.

The immediate results of this amended by-law will be to give permanency of tenure to deserving teachers and to make possible a very careful selection of new teachers. The old contract could be terminated at the end of thirty days while, under the new arrangement a teacher will be given a probationary period of one year to make good deficiencies, allowing full opportunity to return to regular standing. It will eventually result in higher professional standards, better teachers and better schools.

The amendment reads as follows:

A. All teachers in the service of the board of education for one year or more on September 1, 1920, who are now rendering satisfactory service will be given a continuing contract for 1921-22 and succeeding years, subject to cancellation for cause upon thirty days' notice.

B. All teachers who have served less than one year and all teachers who are not rendering satisfactory service, will be classified as probationary teachers. Regular teachers whose work is judged to be unsatisfactory will be placed on the probationary list at the end of any semester.

C. At the end of a year of probationary service,

1. A teacher whose service has been unsatisfactory will be dropped.

2. A teacher whose service is of doubtful merit will be continued as a probationary teacher a second year, but no teacher will be given more than two years of trial as a probationary teacher.

3. A teacher whose service has been satisfactory will be given a continuing contract for the next and succeeding years.

D. There will be no change in salary of any teacher during the fiscal year, except that in case of promotion to another authorized position, the schedule salary for the said position will be paid from the date of such promotion.

TEACHERS AND ADMINISTRATION

—State Supt. L. N. Hines of Indiana has recently issued copies of the printed regulations governing the employment of teachers for the

next school year. The regulations read as follows:

1. All teachers who began teaching since August, 1908, must be high school graduates.

2. All teachers who began teaching since August, 1908, must have not less than twelve weeks of professional training in an approved normal school or college.

3. All teachers must hold valid licenses.

4. The only valid teacher's contract is a written contract.

5. A valid written contract may not be executed except where a teacher has a license or permit.

6. A permit may be issued only to teachers that have been employed after the August examination.

7. Permits must be in writing and be preserved with licenses and contracts.

8. All licenses must be recorded in the office of the county superintendent, no matter whether the licenses are state, county, or are used in country, town or city.

9. Contracts and licenses must be on file in the trustees' offices or in the offices of the school boards.

10. Contracts must be signed before school begins.

11. All contracts with teachers employed by township trustees must provide for attendance at township institutes at least once each school month, and must provide for pay according to the daily wage for attendance on such institute.

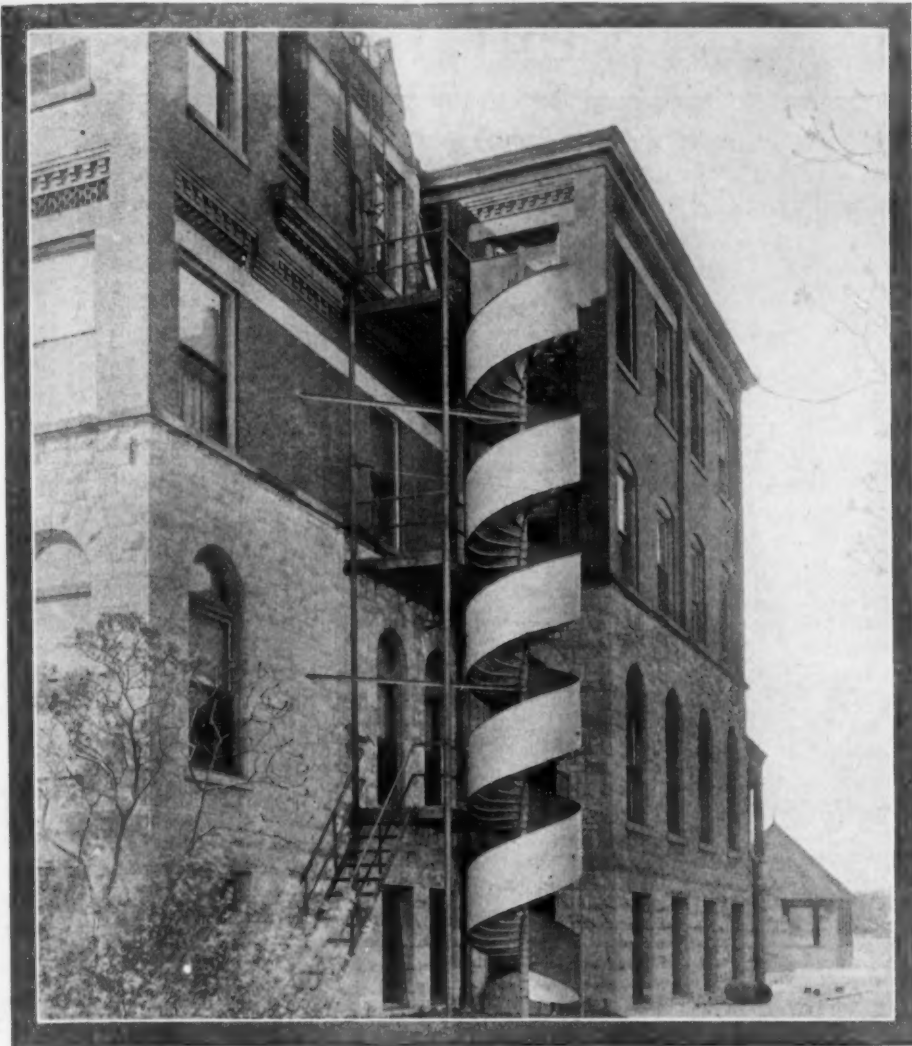
12. Teachers can not enforce collection of salary without written contracts.

13. It is unlawful "for school authorities to employ teachers or janitors who are not able-bodied or who are addicted to drugs or intemperance or who have tuberculosis or syphilis." Trustees will be held responsible for contracts with such teachers or janitors.

14. Full authority is given a trustee or school board to substitute the words "principal," "supervisor," or "superintendent" for the word "teacher" when a contract is made with any one in any of the above classes of school employees.

15. Substitute teachers will be paid by the trustee of the school board. No teacher is allowed to pay a substitute.

(Continued on Page 101)



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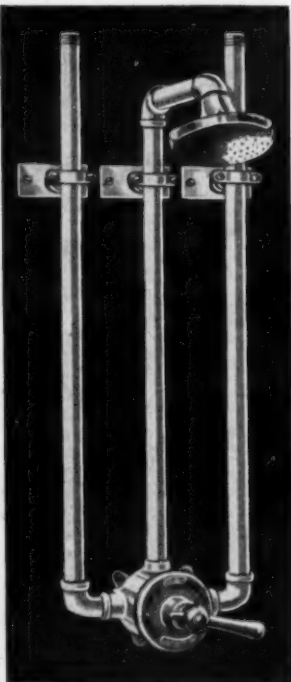
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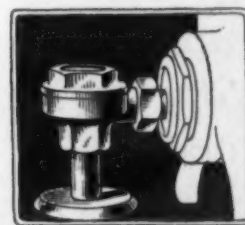
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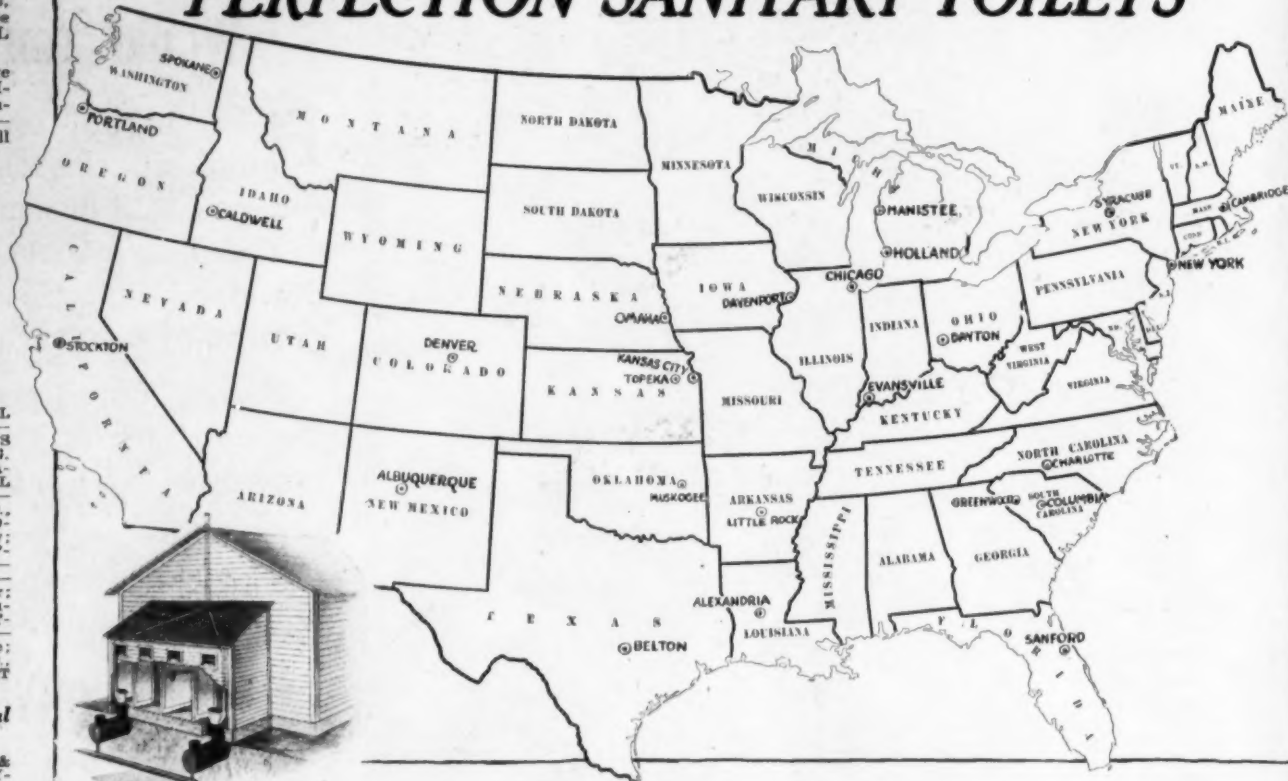
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CHEMICAL TOILET CORPORATION

Desk A

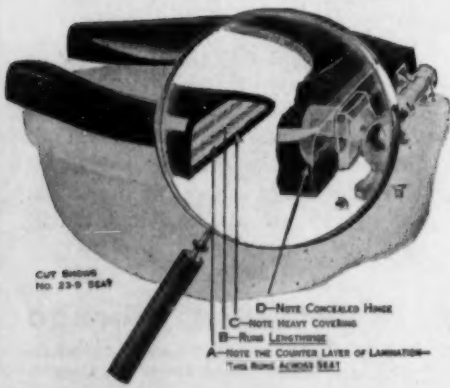
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Students' Health Warrants Up-to-date Sanitary Toilet Seats

WHALE-BONE-ITE aids sanitation because it prevents the accumulation of filth and foul matter. No joints—will not crack. Is impervious and acid proof.

Its beauty is more than skin deep.



Note that heavy covering in Construction Cut. Eliminate your repair bills. Start with Whale-Bone-It they do not need it.

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SOLD BY ALL PLUMBERS AND PLUMBING JOBBERS

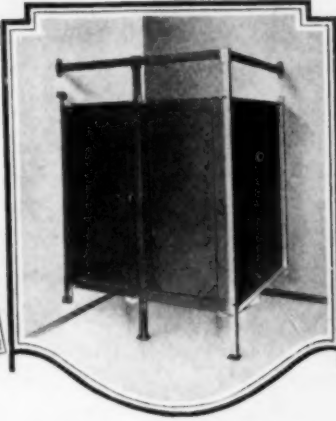
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THE BRUNSWICK-BALKE-COLLENDER CO.
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Washington School, Wichita, Kansas
Lorenz Schmidt, Archt.



James Allison School, Wichita, Kansas
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Weisteel Compartments (of rigid steel construction), for Toilet, Shower and Dressing Rooms have many exclusive construction features, which combined with their unquestioned utility and low cost make them the most popular, efficient and economical for school use. Many of the largest institutions thruout the country have been equipped exclusively with Weisteel Compartments because of their permanence—economy—sanitation and pleasing appearance. The cost of Weisteel Compartments is exceptionally low—and the first cost is the only cost.

"EVERY DETAIL IS A FEATURE"

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All doors on Weisteel Compartments are equipped with the incomparable Lawson Universal Hinge.

Let us furnish specifications and prices on equipping your building. This service places you under no obligation. Booklet of full information sent on request.

Weisteel Compartments can be installed in either new or old buildings with equal facility. Only three bolts are required to erect—no drilling or fitting of any kind. A feature of special merit are the wall connections, which allow for variation in walls and permit setting partitions out a distance of one inch from wall. Weisteel Compartments have no unnecessary joints, no projecting screw or bolt heads or other dust and dirt "catchers." Every sanitary requirement has been fully taken care of in their simple design and construction. They are furnished in either olive green or battleship gray, as desired.

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(Continued from Page 98)

19. In every case where possible, substitutes must hold licenses to teach. In those cases where substitutes do not hold licenses the trustee or school board must be ready to make an affidavit that no substitute teacher with a license was available. The licenses of substitute teachers will be on file as are the licenses of regular teachers.

—Indianapolis, Ind. The Indianapolis Normal School will be reorganized on the basis of a teachers' college, effective September, 1921. The plans call for the addition of more than twenty to the personnel of the faculty, an expansion of the courses offered and the provision of more adequate quarters. Students will be accepted from all institutions and diplomas will carry life certificates to teach in Indiana.

—New York, N. Y. A campaign of publicity has been organized by the high school teachers' association for the purpose of bringing to the public the organized life, the true values, and the abiding worth of the high school system of the city.

The proposed subcommittees of the publicity committee are these:

"1. On revenue, taxation, appropriation, and budget. This should be a committee of economists and experts in taxation—a continuing body, drawn from the most competent and most reliable that our high schools afford.

"2. On progress in states and cities.

"Teachers with unquestioned ability in seeing things in the large and in sensing the elements and the drift of true progress wherever such progress is made have already indicated a desire to serve in this capacity.

"3. On financial independence of the board of education.

"4. On educational plank and charter revision.

"5. On interviews with candidates in support of an educational plank.

"6. On local school boards and parents' meetings.

"7. On new schools, buildings, school equipment, and school conditions.

"8. On co-operation with elementary schools.

"9. On civic and educational associations, dinners, and the press."

It is expected that the committee members in each group will function as a nucleus or coordinating center of a more numerous body of workers whose specially qualified services, duly solicited from teachers whose talents in their special fields will equip them to render such services. Painsstaking service on the part of each of the committees will be the keynote in securing widespread service.

—Manchester, N. H. The school board has recently been severely criticized for its action in barring married teachers from the schools.

—Chicago, Ill. The school board has issued a notice to the teaching force to the effect that no salaries will be reduced. It points out that real estate interests and building equipment have no bearing upon the teachers' salary schedules, and that there is no reason for reduction of salaries.

—All teachers who teach in the schools of Ohio next year must become members of the state teachers' retirement system. Unless they become members and get credit for previous service, they lose the credit for past experience and must come into the service as new entrants. A provision which permitted teachers to be exempted last year will not apply next year.

—A bill has been favorably reported in the Connecticut Senate, under which teachers who seek places in the schools are required to pass a state examination. At present the state has no standard for teachers and local authorities have a right to employ teachers regardless of qualifications.

—The school teacher who accepts lower wages for her work during the coming year deserves to lose her certificate to teach, according to a recent statement of County Supt. W. W. Heater of Defiance County, Ohio. Supt. Heater urged all teachers to uphold the present salary level as none too high for the work which the teacher performs.

—Supt. F. V. Thompson of Boston, has recently criticized the supporters of a measure who would require all teachers of the state to take an

oath of allegiance as a prerequisite to taking a position. Supt. Thompson holds that the implication of possible disloyalty on the part of Boston teachers is quite uncalled for and constitutes an affront to them.

—The school board of Manchester, Ill., recently brought suit against a teacher who broke her contract and entered the employ of another school at an advance in salary. The Manchester authorities demanded \$200 in damages.

—The first, second, third and fourth class city superintendents of Kentucky have agreed to adopt the certification of teachers of the state department, instead of each issuing its own certificates. A committee has been appointed to work out the details of a plan whereby applicants for positions may be examined by the state department. The agreement brings the entire administrative body of the school system under one organization.

—The Civil Court of Bucks County, Pa., in a recent decision, upholds the right of a teacher to inflict certain corporal punishment upon a pupil and refuses damages because of a broken limb. The suit was brought by Louis Hunt, a 14-year-old pupil of Milford Township, against Henry Z. Steiner, requesting damages of \$10,500. Hunt charged that Steiner attempted to pull him from his seat to make him obey certain rules concerning spelling lessons.

—Attorney General Lesh of Indiana, in a recent decision, holds that in the absence of a legal statute, a Catholic nun may not be prevented from teaching in the schools, and that an action for recovery of money paid by a school trustee, could not be successfully maintained. A claim had been submitted by Mr. Eschbach against William Roach, trustee of Jefferson township, Douglas County, for \$300 alleged to have been illegally paid for teaching to a Sister of Charity.

—Chicago, Ill. The school board has discontinued "cadet" teachers with the adoption of a plan whereby fifty schools will be used as the practice centers for training new teachers. Such teachers will be given ten weeks of training, five days a week under the regular grade teachers

(Concluded on Page 103)



The other nine points are published in current advertisements. Send for interesting book picturing all twelve points in detail.

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Higher Quality—Higher Value

The higher the quality of any useful product, the greater its value. This is a truth which guides all sound buying. It is a truth which also governs the manufacture of Medart Steel Lockers. Fifty years ago we established the aim to build, first, a useful product, and second, to build into that product the highest quality attainable. The result has been a locker of great value to those who buy it.

Medart Steel Lockers are furnished in standard, flexible units that are easily installed. They take up

minimum floor space and are readily re-arranged whenever extensions or changes are desirable.

On account of a well-arranged production schedule, all Medart Lockers are shipped promptly—exactly when promised—without aggravating delays.

Our Engineering Service is at your disposal in planning the most economical locker arrangement. This service is gratis and places you under no obligation. Write, stating your needs—we will promptly send helpful literature and data.

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They are the Pioneer Sanitary Drinking Fountains and are more

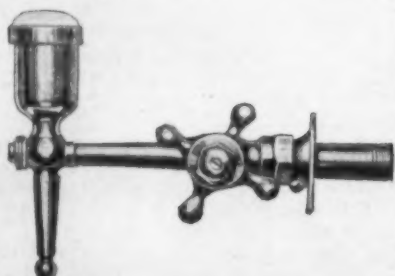
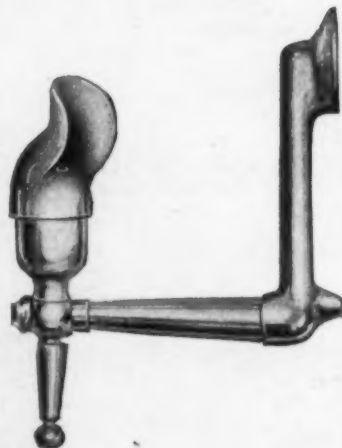
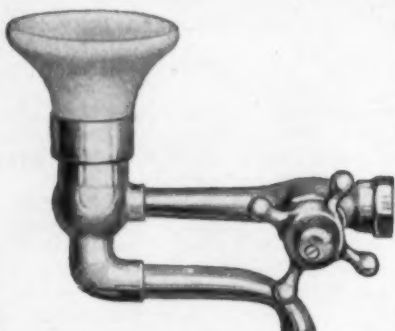
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Twentieth Century Drinking Fountains meet all health requirements. They can be furnished in any style and design wanted.

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BELLEVILLE, ILLINOIS



High School, Red Bank, N. J. E. A. Arend, Architect.

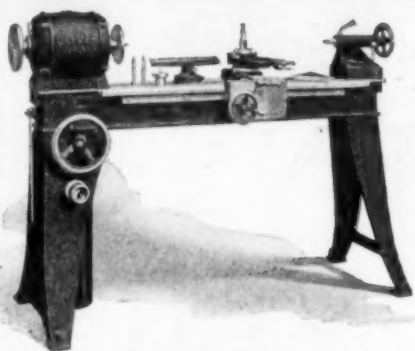
The fresh pure air delivered by the Peerless System is not only heated to the proper temperature, but by being passed over a body of water in each Unit is humidified to a suitable condition for breathing. This assures a supply of uniformly good quality air which is not possible if untreated air is brought into school rooms, particularly if the school is located in a congested or dusty district. Unless the pupils are supplied with a sufficient amount of pure air the result of their work is found to be far below standard. Not only are their assimilating faculties depreciated, but increased liability to actual physical ills becomes a menace. Lassitude, sluggishness, and headaches are the more common indications of poor or insufficient ventilation.

Our engineering staff is at your service.

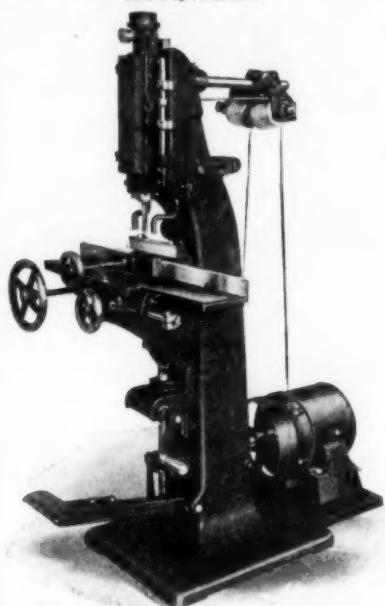
PEERLESS UNIT VENTILATION CO., INC.

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There are 5344 "Oliver" Lathes used in schools. This could not be if they were not dependable.



This mortiser is especially designed for such work as will be done in school shops.

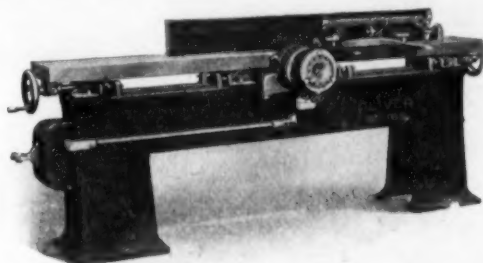


Over 1200 Schools use "Oliver" Tools

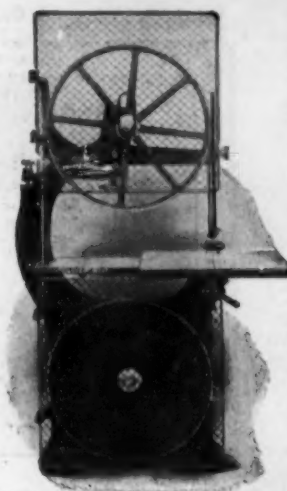
This group of "Oliver" Woodworking Machinery was shipped May 9, 1921, to the Federal Board for Vocational Education, San Antonio, Tex.

Altho the sales of "Oliver" Machinery are largely to industrial users, there are 1221 "Oliver" Equipped Schools.

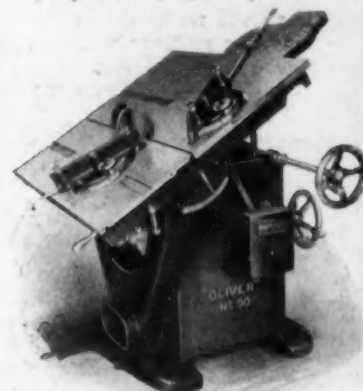
It will be to your advantage to talk over your requirements with an Oliver Engineer.



Four hundred ninety-four schools have purchased the "Oliver" Hand Planer and Jointer—because they are safer to operate and they do better work.



Six hundred sixty-five schools having purchased "Oliver" Band Saws indicates the satisfaction given by "Oliver" Quality.



Six hundred thirty-eight schools have installed "Oliver" Quality Saw Benches.

OLIVER MACHINERY COMPANY

Grand Rapids, Mich., U. S. A.

(Concluded from Page 101)

and will report to the school nearest their homes. A total of 250 hours of actual teaching are provided under the new plan.

—Shenandoah, Ia. A new rule of the board requires that teachers may not use tobacco nor attend dances during the school year. The rule has been made a part of the contract which each teacher is asked to sign upon accepting a position in the schools.

—The Massachusetts House has recently refused to pass a measure substituted for an adverse report, under which women teachers in Boston schools would be given the same pay as men teachers for the same kind of work.

—State aid to municipalities for teachers' salaries in Connecticut has been favorably reported by the state legislative committee on education. Towns and cities with lists between \$2,500,000 and \$3,500,000 will be eligible for state aid under the bill. The new law carries with it an expenditure of \$450,000.

—The Supreme court of Florida has rendered an opinion, holding that neither the constitution nor the state law contemplates the issuing of bonds payable in future years, for the purpose of employing teachers and defraying the general expenses of operation and maintenance. The lower court had validated an issue of twenty-year bonds to be issued by the district for teachers and school expenses.

Lexington, Ky. A unique scheme is being employed by Superintendent M. A. Cassidy, of the Lexington public schools, to interest the teachers in themselves and their personalities as it reflects on their teaching ability. It is, in effect, a monthly inventory of their "stock in trade."

A little sheet is sent to each of the 158 white teachers and the 51 colored teachers each month which reads as follows: "This is a list of desirable teacher and supervisor characteristics. Let's check ourselves up and see where we stand. If we have not all these characteristics now, let's re-check ourselves a month hence, and see how much we have improved."

Then follows: "Am I (1) Pleasing, (2) Courteous, (3) Cheerful, (4) Industrious, (5) Sympathetic, (6) Enthusiastic, (7) Polite, (8)

Tactful, (9) Stimulating, (10) Humorous, (11) Encouraging, (12) Scholarly, (13) Resourceful, (14) Systematic, (15) Kindly and firm in discipline, (16) Winning cooperation, (17) Self-controlled, (18) Professionally ambitious, (19) Open minded and (20) Loyal."

—Dr. John S. Hall, who spoke recently at Detroit, Mich., declared that although we are accustomed to regard the United States as the best educated country, statistics show that the country holds the ninth place. The census shows that there are 600,000 teachers, which if placed in line, allowing three feet to each, would make a line 400 miles long. Arranging them according to age, placing the youngest at the beginning of the line, would make a walk of 75 miles before a single teacher of 21 years would be reached. This means that one-quarter of all the children in the country are taught by immature young persons.

Arranging the teachers according to educational equipment, would require a walk of 240 miles before a single Detroit teacher would be reached for the reason that all the Detroit teachers would be in the last sixty miles. The requisite in Detroit is a high school course, plus two years of normal training.

"Last year there were 18,279 schools in the United States closed for lack of teachers. If each of these schools took care of 30 children, this means that more than half a million of our oncoming citizens were denied an education. Detroit had none of this.

"The census shows that there were 5,500,000 Americans who could neither read nor write, and 3,500,000 foreigners who could neither read nor write English. The general opinion is that all our illiteracy is to be found among the Negroes, but there are in this country one million more illiterate whites than Negroes. There are more illiterates in New York than there are in the whole of Texas."

—Construction work has been started on the new high school at Kent, Ohio. The building will cost \$321,672. This is on the basis of 33 cents per cubic foot for first-class fireproof construction.



Teachers' Salaries

TEACHERS' SALARIES.

—Uxbridge, R. I. The school teachers have been given increases of \$50, and an additional \$50 for attendance at a summer school.

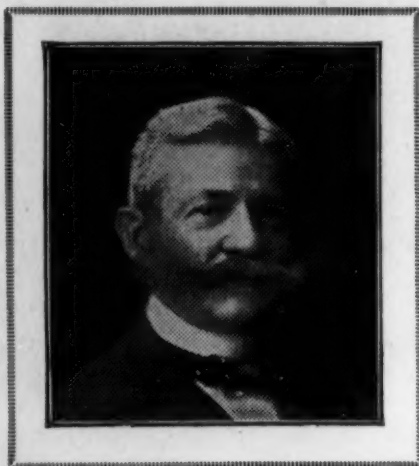
—Dean S. S. Colvin of the School of Education, Brown University, has recently urged a minimum salary of \$2,000 for all classes of teachers and a maximum limited by the ability, efficiency and service of the individual.

—New Orleans, La. The school board has adopted the recommendations of a special committee providing for increases in salary for male instructors with five years or more of service.

The new scale increases the salary for fifteen years or more of service from \$270 to \$330 a month. The salary of the superintendent has been fixed at \$400 a month and that of the vice-principal has been increased \$20 a month. The increases are retroactive from September, 1920.

—Elkhart, Ind. The school board has adopted a salary schedule proposed by Supt. B. W. Kelly, which rewards teachers for faithful and efficient service and encourages them to advance in their own classification through further preparation.

Under the schedule there are five classifications, with salaries ranging from \$1,200 to \$1,800. The first which is designated as Class A, consists of teachers who have had two or more years of normal or other professional training, in addition to four years of high school. Such teachers with no experience will receive \$1,200; teachers with one to three years' experience in other schools, or one year's service in Elkhart, will receive \$1,300. Increases of \$50 are provided for each year's experience until a salary of \$1,500 is reached.



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Keep Them Clean, Neat and Sanitary

It is essential that every Free Text Book be carefully and securely protected against wear so that the full 100% service can be obtained from it.

Three Qualities of Material—Each the Best in Its Class

THE HOLDEN PATENT BOOK COVER COMPANY

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SPRINGFIELD, MASSACHUSETTS

The second class which is designated as Class B, is made up of graduates of approved three-year normal courses. Those teachers with no experience will receive \$1,350, and those with one to three years' experience in outside schools, or one year in Elkhart, will receive \$1,450. All teachers will receive annual increases of \$50 up to a maximum of \$1,600.

Class C, which is composed of college graduates with bachelor degrees, provides for a salary of \$1,400 for inexperienced teachers and \$1,500 for those with three years' experience outside the city, or one year in Elkhart. Increases of \$50 will be given until a salary of \$1,700 has been reached.

Class D consists of college graduates, with one or more years of normal training with a master's degree. Teachers of no experience will receive \$1,500. Those with one to three years' experience in other schools, or one year's experience in Elkhart, will receive \$1,600, which is increased annually by \$50 until \$1,800 is reached.

—Leominster, Mass. Increases of \$50 to \$100 have been given all the teachers. The principal of the high school has been given an increase of \$250, making his salary \$3,000.

—Pres. George A. Davis, of the board of education of Grand Rapids, Mich., has presented to the board, an outline of a plan for a salary scale which shall take into account the testing of the beginner, encouragement for advancement in professional training and in compensation. Mr. Davis suggests a schedule providing for a minimum of \$1,100 and a maximum of \$2,100 for grade teachers, and a minimum of \$1,400 and a maximum of \$2,800 for high school teachers.

—Walla Walla, Wash. The board has adopted a new scale providing for reductions of salaries of all teachers. In the grade schools, the schedule provides for a reduction from \$2,000 to \$1,900 in the maximum, and from \$1,200 to \$1,100 in the minimum. In the high school, the maximum will be reduced from \$2,000 to \$1,900 and the minimum from \$1,400 to \$1,350. The reductions are on a graduated scale, revised downward for those who receive salaries between the minimum and maximum.

—As a general rule, teachers' salaries in Kansas next year will be as high as this year, or higher, according to Mr. Frank L. Pinet, secretary of the state teachers' association. Reports of increased salary schedules are received daily and superintendents and principals have been granted increases by their boards of education. It is the opinion of Mr. Pinet that present scales will at least be maintained in all except possibly the smaller communities and rural districts. There appears to be no surplus of trained teachers and qualified instructors are assured of positions with adequate pay.

—The Edmonds bill prepared by State Supt. T. E. Finegan of Pennsylvania, and providing for a schedule of teachers' salaries, has been approved by Governor Sproul. The bill establishes minimum qualifications for teachers and permits boards of local districts to create additional qualifications if they desire. Salary lists are provided for each class of district and six years are allowed for making the program effective. A minimum of \$100 a month is provided for teachers in fourth class districts.

—Little Rock, Ark. The school board has employed teachers for next year at the present salary figures, but reserves the right of abrogation on thirty days' notice. A proposed reduction of ten per cent in salaries was held in abeyance pending the final payment of a six-mill voluntary assessment of the county taxpayers.

—Rutland, Vt. Increases for teachers, totalling nearly \$5,000 have been given to high and grade school teachers. The maximum for grade teachers has been raised from \$950 to \$1,200.

—Teachers for rural districts in Illinois, at salaries of \$75 and \$100 are scarce, according to school authorities. Teachers are being recruited early in the season in order to meet the shortage of trained instructors.

—Bogalusa, La. Teachers in the schools have suffered a reduction of twenty per cent in salary, due to insufficient funds.

—Richmond, Va. The board has adopted an increased salary schedule, providing for a minimum of \$1,000 for a nine months' term. The increases are effective from January first to the present year.

—West Allis, Wis. The teachers have received increases in salary, ranging from ten to fifteen per cent.

—Marion, O. President of boards of education in Marion County have adopted an average of \$115 to \$120 per month for grade teachers' salaries. A uniform schedule will be adopted to eliminate bidding between boards for teachers' services.

—Portland, Ind. The board has given a seven per cent increase in salary to all the teachers for the next school year. The increase amounts to about \$2.50 a week.

—Evansville, Ind. The board has given increases in salary to 42.8 per cent of the teachers in the grades, and to 40.1 per cent of those in the high school. Of the total, 147 grade and 30 high school teachers were given increases.

—Roanoke, Va. The board has increased the salary budget by ten per cent and has adopted a schedule embodying the principles of the single schedule pay for all grades of work. The schedule provides awards for the teacher who improves herself by further study in summer school, or advanced work in normal or college, and retains the standard requirements for elementary and high school teachers.

Under the schedule, teachers holding normal or high grade certificates will receive \$90 the first year, \$100 the second year, \$110 the third year, \$120 the fourth year, and \$125 the fifth year.

Teachers who hold certificates of lower grade than a normal or special, will receive \$10 a month less than the basic schedule. Experience in other schools will be evaluated by the superintendent.

Teachers who complete one year's training above a two-year normal course, will receive an additional \$20 per month above the schedule. Teachers who hold a master's degree will receive an additional \$60 per month above the schedule.

Men teachers, other than principals, will receive an additional \$30 per month. Principals of elementary schools will receive \$60 a month additional, principals of junior high schools \$100 per month additional and nine and one-half months' salary, and principals of senior high schools \$100 a month additional and ten months' salary.

(Continued on Page 107)

Improve the Handwriting of Your Pupils

BY USING OUR

New Measuring Standard Tablets

These Tablets have been perfected by Dr. Frank N. Freeman, University of Chicago, Supt. F. E. Clerk, Winchester, Va., and Supervising Principal, J. B. Wells, Roslyn, N. Y., and prepared, copyrighted and patented by this Company.

The scale in these Tablets was constructed from copies of handwriting made by children in the schools of Boston, Montclair, Schenectady, New Orleans, Seattle, Grand Rapids, and St. Louis. This was done in order to secure representative writing of as wide an area as possible. It represents the most comprehensive plan ever per-

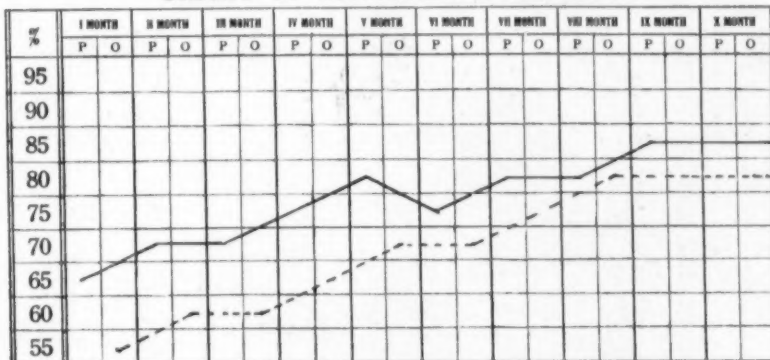
fectured in constructing a thoroughly reliable and scientific scale.

75 per cent.

The searchers for the sunken treasure were about to give up, but the small boat's crew decided to make one more attempt, and to accomplish their purpose they rowed directly over the reef upon which the old Spanish galleon was supposed to have been wrecked.

THE NORMAL SPEED OF WRITING IN GRADES 3 AND 4 IS FROM 36 TO 57 LETTERS PER MINUTE.

CHART OF MONTHLY AVERAGES



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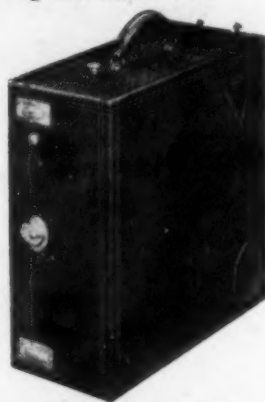
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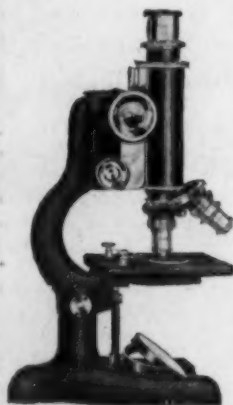
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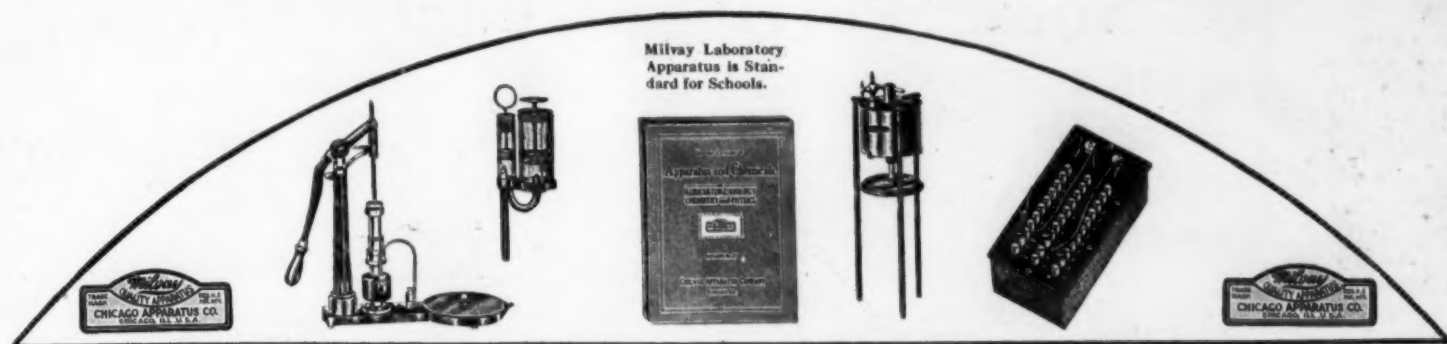
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The salary schedule for colored schools is three-fourths of the basic schedule, plus any fractional part of a multiple of \$5 per month.

A maximum of ten days of excused absence for sickness or other causes is allowed without deduction in salary. For unexcused absence for any cause, and for all excused absence above ten days, full salary will be deducted unless specifically allowed by the board.

—The school board of Beverly, Mass., has adopted an amendment to the rules governing teachers' salaries, providing that the general maximum shall be attained by an increase of \$100 for the second year and \$50 for the subsequent years. After the first year of service, \$100 of the annual salary of each full-time teacher, supervisor and principal will constitute a service increment to be paid to those who have remained in service and whose teaching status has not been changed.

In case a teacher, supervisor or principal is compelled during the school year to leave the service because of ill health, quarantine or other cause, such teacher, supervisor or principal will receive such portion of the service increment as the length of service bears to forty weeks.

—The school board of Rock Hill, S. C., has adopted a salary schedule which classifies teachers in five divisions according to training and qualifications. Teachers without experience, beginning in Rock Hill, having a college education and a first-grade certificate will be placed in Class One. A prerequisite for holding a position is attendance at a summer school, at least once in three years. A bonus of \$25 will be paid for such summer course, provided this has not been given oftener than once each two years.

Grade teachers will begin at \$810 and advance to \$950. High school teachers will begin at \$900 and will advance to \$1,050.

—Spokane, Wash., has adopted a single salary schedule which is designed to encourage scholastic and professional preparation for all branches of the service by paying the same salaries to teachers whether their work be in kindergarten, grade or high school.

—South St. Paul, Minn. The school board has adopted a salary schedule providing for a term

of nine and one-half months and increases of twelve per cent in salary. The schedule is as follows:

Grade schools—Inexperienced teachers entering the teaching corps, \$1,200; teachers with one year of experience and entering for the first time, \$1,250; teachers with two years' experience, \$1,300; teachers with three years' experience, \$1,350, and teachers with four years or more experience, \$1,400. New teachers with three years' professional training beyond the high school are to be given one year's credit toward experience, and those having four years' training will be given two years' credit. At least two years of satisfactory professional training beyond a four-year high school, will be required as a minimum qualification. Increases of \$75 are provided up to a maximum of \$1,750.

High School—Inexperienced teachers entering the corps for the first time will be paid \$1,450; those with one year of experience, \$1,500; those with two years' experience, \$1,550; those with three years' experience, \$1,600, and those with four years' experience, \$1,650. The minimum qualifications are fixed by the state board and the annual increase is based on the recommendations of the superintendent. The increases in salary will be at the rate of \$75 up to a maximum of \$2,250.

Heads of departments and assistant principals will be given an allowance of \$10 per month.



—Dr. A. H. Harriman, president of the New Hampshire Medical Society, in a recent address before that body, urged that the doctors of the state devote more attention to the children and to the schools.

Dr. Harriman argued that every board, town or state, ought to have a medical man as a member, or as a medical director on a salary. Teachers, he said, should be required to know something about the human body and its requirements.

—Louisville, Ky. The public school buildings will be used as health clinics during the summer vacation. At the clinics, children will be examined and treated preparatory to the opening of school. A group of five physicians has been assigned to the work of examination. Treatment is to be provided by the family physicians, or in cases where the parents cannot pay, by the city physicians.

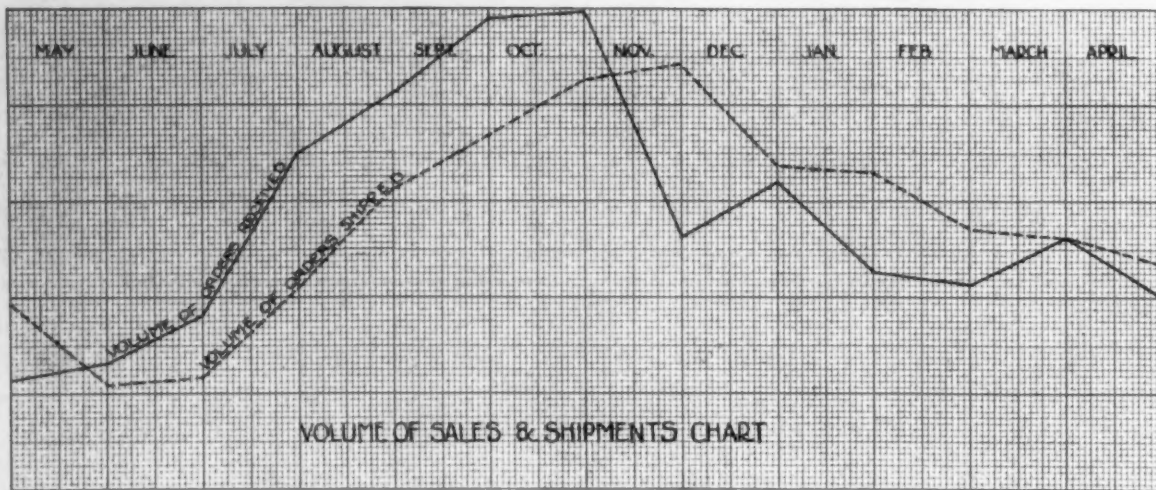
The clinics are intended for the purpose of improving the health of the children and making it unnecessary to interfere with school work after the fall semester has begun.

—Kansas City, Mo. The school board has added nineteen nurses to the physical education department, making 33 nurses to carry on the work for next year. It is the plan next year to assign one nurse to each two schools of the larger group, and to assign one nurse to three or four of the smaller schools.

—New York, N. Y. The board of education has approved a recommendation of the board of superintendents granting the New York County Chapter of the American Red Cross the right to establish a dental hygiene clinic in Public School 115, Manhattan. The chapter agrees to supply the equipment and to employ the dental hygienist so that no expense will be incurred by the board.

—Dr. Thomas F. Kenney, director of health work for the public schools of Worcester, Mass., who spoke recently before the teachers of Charlestown, declared it was no time to close a school during an epidemic, and charged that a community where an epidemic of diphtheria exists is a discredit to civilization. Dr. Kenney in his talk, spoke with particular reference to the part played by the teacher in making health inspection work effective. The splendid results obtained in Worcester have directed the attention of the country to this city, and it has been taken as a model from which to build up a similar line of work.

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Our Scientific Historical Narrative will be resumed in the August Issue.

Watch for Chapter Nine.

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—Akron, O. The city health commission, on April 14th, passed a regulation for the control of smallpox. The regulation provides that school children excluded as having been exposed to smallpox may be readmitted by the school nurse on showing the vesicle of a successful take and no accompanying eruption. Satisfactory evidence that a child has recently been thrice properly vaccinated with fresh vaccine known to have produced successful vaccinations, may be presented to permit a return to school. This does not imply that the child is immune either to vaccination or to smallpox.

Complete justification of the policy of exclusion has been demonstrated by the small number of smallpox cases which have developed since last November.

WEIGHT AND MALNUTRITION.

All authorities are agreed that malnutrition in children is responsible for bad health and bad scholarship. They are further agreed that many children are poorly nourished. Whether this is due to bad economic conditions, poor food supply, poor home discipline, errors in appetite, or bad teeth, there is not the same agreement.

Dr. Emerson of Boston, who has given special attention to the subject of malnutrition in children, contends that every child more than seven per cent below the weight proper for his height is poorly nourished to a sufficient degree to feel the effects.

Dr. T. Clark of the United States Public Health Service lays down three rules for the determination of the state of nutrition. They are: Weight with respect to age and height, rate of growth, behavior, and appearance.

The first two of these are as follows: Boys should gain six ounces a month between 5 and 8 years of age. Between 8 and 12 years, eight ounces a month; between 12 and 16, sixteen ounces a month, and between 16 and 18, eight ounces a month.

With girls, the rates of increase in weight are somewhat different, being six ounces a month from 5 to 8 years, eight ounces, 8 to 11; twelve ounces, 11 to 14; eight ounces, 14 to 16, and four ounces, 16 to 18.

According to the table of the child health organization, from which the scale of rate of growth was taken, the height and weight of boys of different ages normally range within the following figures:

Age Years	Height Inches	Weight Pounds
5.....	39 to 46	35 to 48
6.....	39 to 49	36 to 55
7.....	39 to 52	37 to 62
8.....	42 to 54	44 to 69
9.....	45 to 56	49 to 77
10.....	47 to 60	54 to 91
11.....	48 to 63	57 to 105
12.....	50 to 64	62 to 113
13.....	53 to 69	71 to 138
14.....	55 to 74	78 to 162
15.....	51 to 76	86 to 174
16.....	58 to 76	91 to 175
17.....	59 to 76	97 to 176
18.....	61 to 76	110 to 177

For girls the measurements and weights are given as:

Age Years	Height Inches	Weight Pounds
5.....	39 to 46	34 to 48
6.....	39 to 49	35 to 53
7.....	39 to 52	36 to 62
8.....	42 to 54	43 to 68
9.....	45 to 56	49 to 76
10.....	47 to 59	53 to 89
11.....	48 to 63	56 to 109
12.....	50 to 66	61 to 119
13.....	53 to 69	70 to 129
14.....	55 to 71	77 to 138
15.....	57 to 72	86 to 145
16.....	58 to 72	91 to 147
17.....	59 to 72	98 to 148
18.....	60 to 72	103 to 149

While there are broad ranges in weight and height for age, the weight for a given height does not vary very much from the figure given by Dr. Emerson. The measuring must be done under uniform conditions and the weighing must be carefully done on accurate scales, with due regard to weight of clothing and weighing time. The work must be regular and systematic.

Signs of malnutrition are pallor, dullness, listlessness, fatigue, dark rings under the eyes, no pep, poor scholarship, nervousness, fretfulness, irritability, hard to please, hard to manage, eat and sleep poorly.—Dr. W. A. Evans, in Chicago Tribune.

—Supt. E. M. Sipple of Burlington, Ia., has been reelected for a three-year term, at a substantial increase in salary.

—Supt. W. D. Johnston of Butler District, Hancock County, W. Va., has been reelected for a term of two years at a salary for the first year of \$2,800 and the second year \$3,000. He also receives \$125 a year as secretary of the school board and has an automobile furnished for school use. He was also given a six weeks' leave of absence to take a course in school administration in Columbia University this summer.

—Mr. H. D. Ramsey of Fort Scott, Kans., has been elected superintendent of schools at Parsons, for a two-year term, at a salary of \$4,000 per annum. Mr. M. M. Rose, principal of the Junior High School, has been elected to succeed Mr. Ramsey at Fort Scott.

—Supt. Charles Henry of Pullman, Wash., has announced his resignation, effective with the close of the school year. Supt. Henry gave as his reason, the defeat of the proposed school levy and the failure of the citizens to support him in his school program.

—Supt. W. E. Maddock of Butte, Mont., has announced his resignation. Mr. Maddock's decision was made because of the insistence, of a recently elected majority of the board, upon a policy of retrenchment.

Approximately 62,000 pupils will be graduated from the elementary and high schools and colleges of Indiana this year, according to L. N. Hines, state superintendent of public instruction. Mr. Hines based his figures on those of last year when about 44,000 children completed the eighth grade and were eligible to enter high school. Of this number approximately 29,000 actually entered high school. Thirteen thousand pupils of high schools were graduated and of these about 12,000 entered college.

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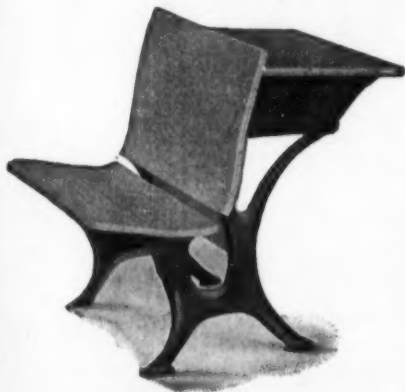
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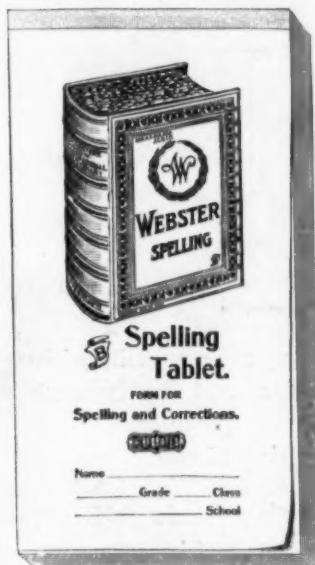
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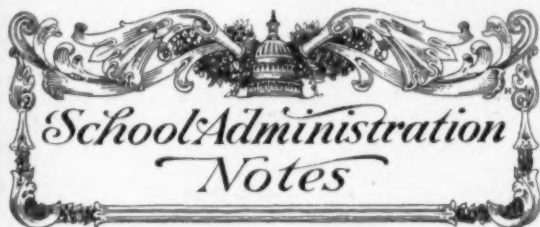
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COUNTY SCHOOL SYSTEMS OF OREGON.

—At the request of the State Education Department of Oregon, Prof. Fred L. Stetson and Prof. John C. Almack, of the Extension Division, University of Oregon, were employed during the past year to make a study of the several counties of the state, with a view of determining their rank based on the efficiency of their school systems. In making the study, it was possible to use the same measurements as were used in determining the ranks of the states of the Union in the well known Ayres study. The statistical data was gathered from reports of the county superintendents and covers a period of six years.

The ten points upon which the report is based were selected for three reasons: first, because increases denote improved conditions in schools and decreases show worse conditions; second, because they are uniformly reported from the respective units; and third, because each may be stated in relation to a theoretical standard and combined into an average or index for a given state and year. The ten items as given for Oregon in 1918 are (1) Per cent of school population attending school, (2) Average days attended by each child of school age, (3) Average number of days schools were kept open, (4) Per cent that high school attendance was of total attendance, (5) Per cent that boys were of girls in high school, (6) Average annual expenditure per child attending, (7) Average annual expenditure per child of school age, (8) Average annual expenditure per teacher employed, (9) Expenditure per pupil for purposes other than teachers' salaries, (10) Expenditure per teacher for salaries.

An examination of the rank of Oregon shows that a very good showing was made in the first three points and that the state did well in keeping its school census population in school for a long school year, and that there was a strong tendency for students to continue into high school, a tendency which was more marked with girls than with boys. The first five items deal with enrollment, and regularity and persistence of attendance, and are called educational factors. They do not provide a measure of efficiency of instruction, but they do show success or failure in subjecting children to formal educational influences. Oregon occupied second place in the union in these combined factors in 1918.

The last five items called the financial factors represent different types of expenditure for educational purposes. Oregon ranked from seventeenth to twenty-eighth, the best showing being made in the monthly expenditure for teachers' salaries, and the poorest in the expenditure for buildings, sites, equipment and maintenance. The state rank which was twenty-sixth, indicates clearly the type of efficiency which must be attained in the state for the future.

The study aims to be forward looking. The enumeration of the ten essentials in school progress will suggest many others, quite as significant. Enough has been included to provide an extensive program of school improvement. Campaigns directed toward the improvement of the standing of any county along one or more of the practicable and essential paths of effort would undoubtedly result in raising all or many of the other factors.

The evidence shows that the Oregon school system has made uniform progress since 1914, and that the state ranks higher in the instructional factors than in the financial. There is a wide margin as indicated in the fact that the state ranks second in the union in the first five points, and twenty-eighth in the last five, with a final rank of twentieth.

The point of attack is clearly manifest. To improve the standing of the state, it is necessary to improve the county schools.

One of the interesting sidelights of the study shows the relation of wealth and efficiency in

education. A tabulation of the counties, according to per capita wealth and educational efficiency, shows that Sherman County is first in per capita wealth and similarly in school efficiency. Gilliam County which is second in wealth has a relatively low position, in that it ranks 31st in school efficiency among the counties of the state. Harney County which is third in wealth is sixteenth in school efficiency. Lake County which is fourth in wealth is tenth in efficiency and Morrow County which is fifth in wealth is third in school efficiency. Multnomah County is 21st in wealth and second in educational efficiency. The highest wealth per school census child in the state is \$17,798 and the lowest in Clackamas County is \$4,558.

A comparison of eastern and western Oregon indicates that the average rank of the eastern counties is higher for a six-year period, but that western Oregon leads in educational efficiency in recent years. The arguments concerning the relative efficiency of the two sections which are divided by the Cascade Mountains is upset considerably by the fact that in each, adjoining counties vary immensely in educational and financial school efficiency.

SCHOOL ADMINISTRATION NOTES

—Governor Miller of New York State has signed the Lusk bills designed to curtail freedom of discussion of governmental problems in public and private schools.

—Berkeley, Calif. The next school year is scheduled to open on Monday, August 22nd. In fixing this date, the board expects that the two new buildings under construction will be ready for use on the date of opening.

—The schools of North Adams, Mass., held "Go-to-school days" May 31, June 1 and 2, 1921. The regular work of the schools was carried on and, in addition, some evening work, physical education demonstrations and other exercises, all being work such as patrons and friends might see from time to time if they visited school often. Parents were invited to take luncheon at the high school which was served at 12:15 on Tuesday and Wednesday of that week. A contest of rooms was conducted to see which room had the

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largest number of visitors. Supt. B. J. Merriam, who gave four addresses, conducted a question box immediately after each address.

—The public schools of New York City have experienced a slight increase in the number of students on part time. The number of students on part time in all schools was 107,574, an increase of 1,333 over March, and 47,369 over April. The high schools reported 23,673 students on part time, a loss of 483 from the spring figures, but 19,559 above the April registration. The large increase is attributed to the change in the method of determining part-time in high schools.

—Peoria, Ill. Eleven of the score of teachers who were members of the Peoria Men Teachers' Federation No. 24 before that organization surrendered its charter under protest, have been dismissed from service in the city schools in the biggest upheaval of this nature in the history of the schools.

The action came as a result of a letter of resolutions adopted by members of the federation in surrendering its charter in compliance with an order issued by the board. "Participation in unjustified and strenuous criticism of the constituted authority and refusal to comply with its rules" was the reason given for the dismissals.

—Providence, R. I. Supt. Isaac Winslow has declared that the school buildings of Providence are overcrowded based on the standards maintained in other cities. He finds that the average number of pupils per teacher is greater than the maximum allowed in other cities. On the other hand, Providence has made better provision for its abnormal children than have most American cities.

—Russell, Ky. The citizens have donated over \$2,200 to make up a deficit in the school fund for a nine months' period, caused by the grade school law of 1920 being declared unconstitutional. A school banquet was also given by the ladies of the town, at which more than \$350 was realized. The Russell schools have an average attendance of over four hundred pupils and a teaching corps of ten teachers.

Supt. H. B. Wilson of Berkeley, Calif., in his recent report to the board of education, touched upon the results of the bond issue for school improvements which was voted two years ago. Mr. Wilson shows that what has been accomplished despite the serious economic conditions and the difficulties of marketing the bonds, reflects great credit on all who have had anything to do with the expenditure of funds provided by the bond issue.

—Montpelier, Ind. A blow at high school fraternities has been struck by State Supt. L. N. Hines, in a communication to Supt. L. E. Kelley, in which he holds that boys belonging to these organizations may be subjected to suspension or expulsion from school. Students are given the choice of severing their membership with the fraternity or discontinuing their connections with the high school.

—Belleville, Ill. A school board election fight which was waged over the question of admitting or not admitting the motion picture to the classroom, has ended in victory for those who oppose the movie in the schools. Dr. F. A. Neuhoft was reelected, while three other members were elected on the same ticket.

The state of North Dakota has set a standard of qualifications and salaries which is intended to draw the best teachers from neighboring states. A new law recently passed, provides the following minimum salaries for teachers according to previous training:

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The sum of \$50 a year for five years will be added for teaching service.

The law takes effect in 1922.

In addition to financial inducements in salaries, the state has created a loan fund to assist students through their normal school training.

Americus, Ga. Students of the Union High School in Leslie Community have since September, been prohibited from attending week-day social gatherings by order of the board. The enforcement of the rule already has had some very noticeable effects, according to Dr. L. M. Hawkins, president of the board.

The establishment of a card index for children of school age in every county of Georgia has been recommended by Supt. L. M. Brittain as a means of enforcing the compulsory attendance law.

—Weatherford, Tex. The school board has sold the building bonds for \$200,000 voted last December, and has employed Architects Clarkson & Gairs, of Fort Worth, to prepare plans for a new high school. The building which is planned to accommodate five hundred students, will be ready for occupancy in January next.

—A revision of the St. Cloud, Minnesota, public school salary schedule was passed at the last meeting of the board of education which contains two or three new features. First, special merit increases of \$50 each may be granted to not more than 15 per cent of the teaching force of any one year for the following year, (this is in addition to the regular salary increase for increased experience). Second, a maximum bonus of \$100 will be given for each of not more than four summer schools of work of a grade and nature approved by the superintendent. Third, all salaries will be paid in twelve monthly payments on the first of each calendar month beginning October 1st. The schedule takes into account in determining teachers of superior ability, who shall receive the special merit increases; exceptional work in classrooms, interest in extra curricula activities and professional study.

—Akron, O. The new Perkins School, which will be occupied in September, will be opened with an enrollment of nearly one thousand children. The building is a four-story, brick structure, with classrooms, offices, shops, a kindergarten, a library and an auditorium seating about fifteen hundred persons. The fourth floor of the building is given over to the continuation school and the attendance department.

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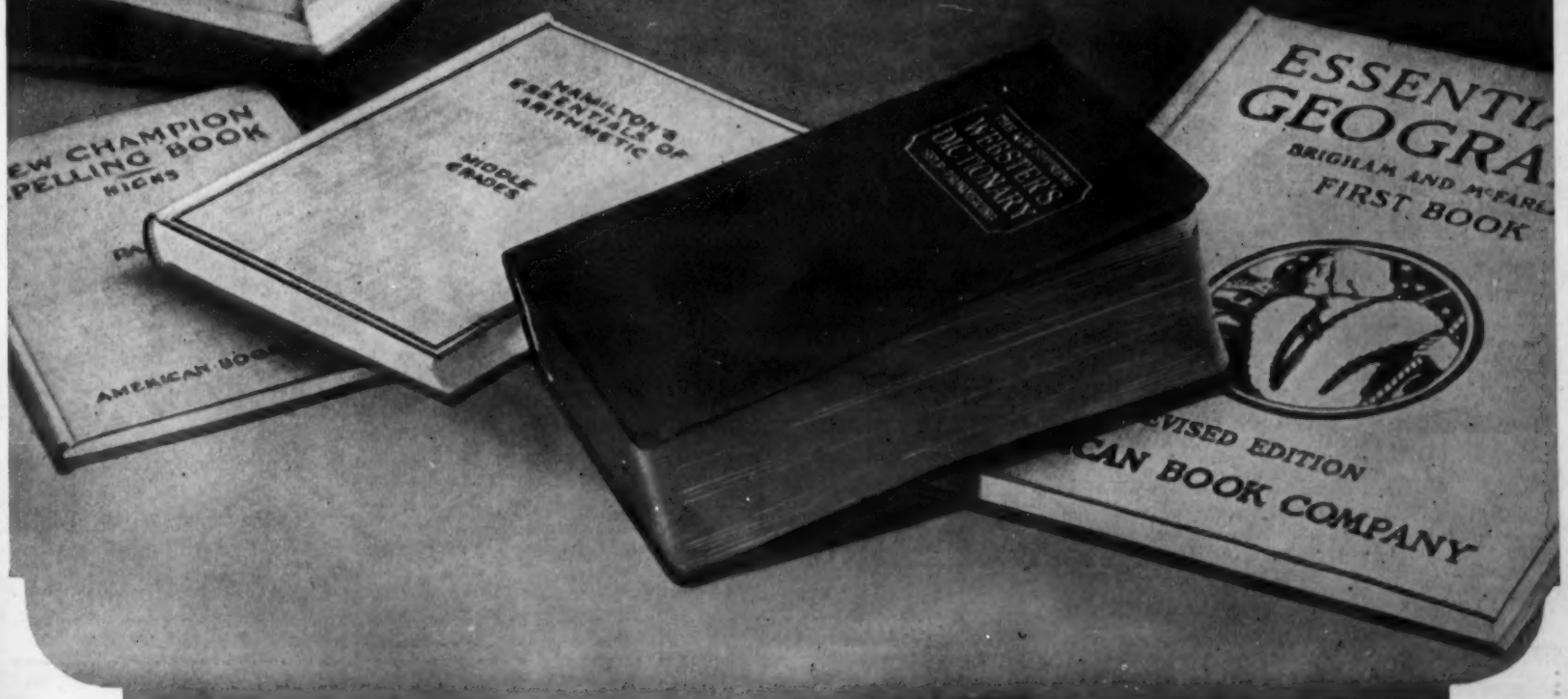
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Outlines in Dictionary Study. By Anna L. Rice. A practical and helpful guide for teaching the use of the dictionary to fourth, fifth, sixth, and seventh grade students. It is the result of actual tests in the classroom and makes the dictionary habit a permanent one. 77 pages; bound in cloth.....60c

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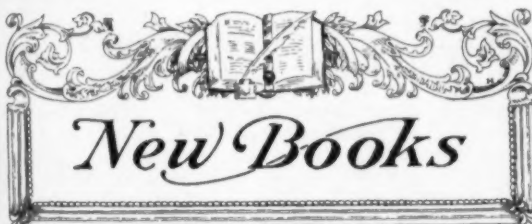
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Nature-Study Agriculture.

By William T. Skilling. Cloth, 332 pages, illustrated. World Book Co., Yonkers-on-Hudson, N. Y.

This book presents a complete course in agriculture for children in the upper grades. The approach is from the standpoint of nature study and much emphasis is placed on observation, and experiment as means of driving home facts and principles. The economic aspects of the subject are almost entirely omitted. Understanding and appreciation of the wonders of nature and of the science as applied to the growing of plants seem to be fundamental purposes. The book is simple in language, well illustrated and mechanically well made.

Making a High School Program.

By Myron W. Richardson. Paper, 35 pages, octavo. World Book Co., Yonkers-on-Hudson, New York, N. Y.

The headmaster of the Boston Girls' High School, outlines here the method which he has developed for making a high school program that will (a) produce the greatest possible use of the school plant; (b) keep teachers evenly employed; (c) place each student in the class he properly belongs to.

Lippincott-Chapman Tests.

By J. C. Chapman. Four pages, 9x12. J. B. Lippincott Co., Philadelphia, Pa.

This test of classroom products is intended for schools which desire to make self surveys with the use of a minimum of time and material.

The test covers arithmetic fundamentals, arithmetic problems, reading selections and reading continuous passages. The problems follow well

established lines and while no statement is made by the author concerning the development of the material it has the earmarks of having been tried out under various school conditions. The test of continuous reading is especially good in the choice of material and the analysis required by the pupils. There seems to be no warrant for problem seventeen of the R. S. test in which children are asked to describe the dishonest conduct of a man as "thrifty."

Stories of the Day's Work.

By Roy Davis and Frederick G. Getschell. Cloth, 318 pages. Ginn & Co., Boston, New York, Chicago.

The title of this book expresses its content exactly; it is made up of stories of work and of the common experiences of workaday lives. The selections are taken from modern American writers and each one is a little gem of interesting, stimulating, and even thrilling experience in what are commonly considered commonplace situations among everyday, average people. The book should appeal to teachers in junior high schools and vocational schools where the "literary" type of reading material will fail to interest.

Each selection is followed by a list of words for study, subjects for themes and discussion, topics for debate and collateral lists of reading. The last mentioned are not always appropriate and many of the books recommended are entirely unsuited for children. The book is in itself so splendid that further references seem superfluous.

Measuring Standard Tablet.

Prepared by Prof. F. N. Freeman, Supt. F. E. Clerk, Supt. J. B. Wells. No. 1, second grade; No. 2, third and fourth grades; No. 3, fifth and sixth grades; No. 4, seventh and eighth grades. Paper, 7 3/4" by 10 1/2". Dobson-Evans Co., Columbus and Indianapolis.

This series of tablets deserves attention because it represents the pioneer effort to put into practical use in a writing-exercise tablet a definite scale for measuring the quality of the writing.

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forts for standardizing the quality and speed of hand writing have been useful as tests, but they have not served as a guide to children which can be employed daily in the writing period. They have stimulated the teacher to make greater teaching effort and have enabled her to find and correct shortcomings in individuals and in the group.

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Sample Projects.

Second Series. By James Fleming Hosic. Paper, 31 pages. Published by James Fleming Hosic, 506 West 69th St., Chicago.

This pamphlet consists of brief accounts of nineteen valuable projects undertaken by teachers and described by them.

The Test and Study Speller.

By Daniel Starch and George A. Mirick. First Book. Cloth, 90 pages. Second Book. Cloth, 63 pages. Third Book. Cloth, 72 pages. Silver, Burdett & Co., Boston, New York, Chicago.

These books present a complete course in spelling from the second to the eighth grades. The selection of words is based partly on child interests and child vocabularies and partly on adult vocabularies as established in the Eldridge, Ayres, Jones, Cork and O'Shea, Anderson and Starch lists.

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A Study of the Types of Literature.

By Mabel Irene Rich. Cloth, 540 pages, illustrated. The Century Co., New York, N. Y.

In making this collection of great examples of types of English literature, the author has had in mind the needs and capacities of high school students. Each is preceded by a discussion of the characteristics of that form of literature and is followed by suggestions for study, lists of references, questions for review. In its suggestions for supplementary reading the book includes practically all classics and many well known works that are not suited for student reading.

Pattern-Making.

By Edward M. McCracken and Charles H. Sampson. Cloth, 112 pages, illustrated. D. Van Nostrand & Co., New York, N. Y.

This is a practical, introductory text prepared by two teachers of long experience. It presents principles and suggests a graded series of problems.

Student's Daily Lesson Book.

By S. A. Courtis and Lena A. Shaw. Paper, 24 pages.

This is a revised edition of the authors' Standard Practice Tests in Handwriting. It is substantially the same as the first edition, with a few mechanical improvements intended to make the tables and scales slightly more attractive and interesting to children.

The Manufacture of Pulp and Paper.

By J. J. Clark and T. L. Crossley. First Edition, Cloth, 181 pages, illustrated. McGraw-Hill Co., New York, N. Y.

This is the second volume of a five volume official work on the subject of pulp and paper manufacture. The books are the result of a movement for vocational education of men employed in the paper making industry and are sponsored by the Canadian and United States pulp and paper associations.

The present book takes up (1) mechanics and hydraulics, (2) the elements of electricity and (3) the elements of chemistry. While the authors handle these respective subjects in a thorough and scientific manner, they have emphasized those principles and theories which have especial application to the paper industry. The treatment takes into account the fact that the students are mature but have in many instances no knowledge whatever of mechanical or chemical principles. The practical application of the subject is splendidly provided for in such typical chapters like those on the flow of water in pipes, buying electricity, metals that are of interest to paper makers, etc.

Mechanically the book is typical of the care and quality of a McGraw-Hill publication.

Essentials of English.

By Henry C. Pearson and Mary F. Kirchwey. Cloth, octavo, 469 pages. American Book Co., Chicago, New York.

This book presents a very complete course for the seventh and eighth grades. It is built on principles that have stood the test of long, successful use in the classroom and it introduces rather modestly the newer socialized recitations,

projects, games, dramatization, etc. Every section is carefully motivated and only such exercises as contribute to the main problem are included. Formal grammatical principles are introduced only as they contribute to the learning of correct writing and speaking. Oral work is emphasized for its own value as well as a preparation for written work. The book is well balanced, and teachable.

We should be inclined to omit several of the reference books, recommended on page 298, and substitute others for them.

Geography—Physical, Economic, Regional.

By James F. Chamberlain. Cloth, regular octavo, 509 pages, illustrated. J. B. Lippincott Co., Philadelphia.

This text, which is especially designed for high school and normal school use, avoids entire place geography and limits itself to physical and economic geography insofar as these affect the lives of individuals and of society as a whole. Regional geography of the United States is taken in the final chapters in the spirit and style of the earlier sections. The book divides itself into seven parts: (1) physical geography, (2) agriculture and agricultural products, (3) the forests and man, (4) animals and their relation to man, (5) minerals and man, (6) transportation and communication, (7) the regional geography of the United States and its possessions.

The author has a crisp, clean cut style and he writes with a fluency that makes the reader forget the "textbook" character of the work. He has a keen appreciation of the human aspects of geographic facts and physical conditions and he does not let his scientific attitude submerge his enthusiasm in telling of the wonders of the earth. And he has clearly in mind the value of geography to the future economic lives of students as engaged in trade, industry, agriculture or home making.

On page 34 he quotes, "The heavens declare the glory of God," but on page 32 he says that the origin of the solar system is not known. Why not make the latter statement consistent with the former fact?

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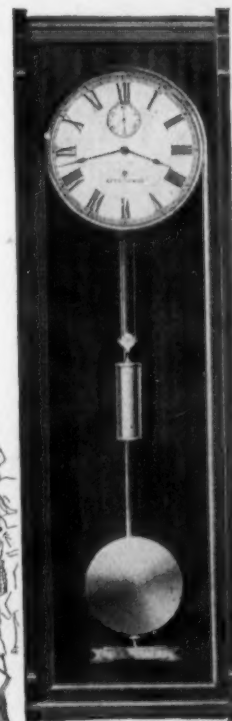
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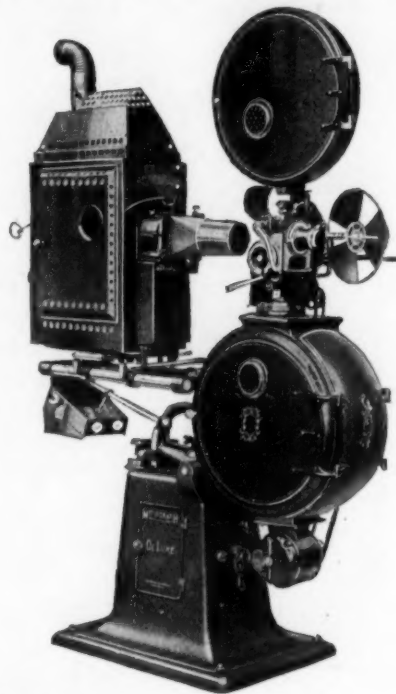
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and Crayonex wax colored crayons are the result of four generations of effort and study by this company with the single object of perfecting a product suitable for children of various ages.

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THE AMERICAN CRAYON COMPANY
ESTABLISHED 1835
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Crayonex
Eight Colors

SCHOOL LUNCHES AND LUNCHROOMS.

(Continued from Page 51)

The public school was established to build up the future citizens of the country—to educate them in ways that would make them useful to themselves and to society at large. It will be agreed without any argument that proper feeding and knowledge of food are vital—just as much so as any other branch of school instruction. But if the matter of food instruction is to be left to the home why is it not just as reasonable to leave the instruction in other lines to the home also?

It has been established that children are undernourished not because of any lack of food,

not because of any inability to buy the food, but because of right down deplorable ignorance in the home. If the public school is not going to supply this knowledge then what agency is?

This is the view being generally accepted by directors or schools large and small throughout the country and the acceptance means a new era not only in American education but in American life and well being.

As to the matter of installing and operating a school lunch room school heads are learning to their satisfaction—not to say delight—that this is not technical at all. It does not require the hiring of an expert director. School lunch

room equipment can be purchased as easily as a suit of clothes. It can be obtained in "sizes" to fit individual requirements as easily as a shirt or a pair of shoes.

Nobody ever worries about the purchase of a kitchen cabinet, a parlor suite or a bedroom suite thinking that the deal may involve technical features that may lead to all kinds of entanglements. Everybody knows that the matter of home furnishings has been worked down to a science and that the needed articles can be purchased on the open market as expeditiously and safely as canned fruit, calico or thread.

Equipment houses have made this branch of



TWO VIEWS OF A TYPICAL KITCHEN FOR A HIGH SCHOOL CAFETERIA.



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merchandising their business and have removed from the proposition all its worries and technicalities. A school lunch room which can serve food, be the basis for instruction in food values, serve as a center of community entertainment and interest can be installed at a cost well within the financial limitations of any school and be operated in a manner that is simplicity itself. It can pay its way. It can easily be adapted to any requirements large or small. The whys and wherefores will be revealed in future articles.

The day is not far off when practically each school building will include in its plans the equipment for kitchen and lunch rooms. The school lunch will be an important and assured branch of school work.

America is slow in this important particular. School feeding is 125 years old in Europe. It has received national recognition in France, Switzerland, Holland, England, Denmark and Germany.

There no longer is any question about whether American school boards must seriously face the lunch problem. It is admitted generally that the movement will extend rapidly within the next few years. The problem no longer is one of "Shall we have school lunches?" It is rather "How may we best guide this movement so as to develop all its potential benefits and at the same time avoid possible dangers?"

These essentials will be treated in due course.

GROWTH OF INDIANAPOLIS HIGH SCHOOLS.

—The high schools of Indianapolis, along with the schools in other parts of the country, have been almost overwhelmed by the multitude of students asking for the privilege of entering the different courses. It is estimated that the average annual gain in enrollment for the past six-

teen years has been 303; for nine years, 455; for five years, 553; and for three years, 775. Seven hundred and seventy-five pupils make a good-sized high school, as most high schools go, a high school requiring a building of thirty or more rooms.

A table prepared to show the high school enrollment for the years 1900-01 to 1919-20 inclusive, indicates that only two losses occurred, while gains of at least one hundred were made in each case. In many cases, the gains reached two hundred, three hundred, and even five and six hundred students, with an estimated gain of 1,230 in the year 1918-19.

The greatest item of interest is the fact that the high school enrollment has increased much more rapidly than the total school enrollment, showing that the standards set by society have been raised to include high as well as elementary schools. In 1900-01, the high school enrollment was only eight per cent, while in 1919-20 it was sixteen per cent of the total enrollment.

Scholarship in the High School.

—High school authorities are frequently called upon to defend the finished product of the secondary school. To meet such a possible challenge, it has been the policy of the high school faculty at Ionia, Mich., to gather and compile a record of the marks made by graduates during the freshman year in college.

In order that students may be better prepared for college, great care has been exercised in properly classifying high school students to enable them to meet the college entrance requirements. During the senior year, special individual consultations are granted students, and talks are given the senior class on the requirements of college. Letters are also sent to the parents, soliciting their cooperation in order that students may realize the greatest benefit possible during the last high school year.

It has been the practice to secure the scholastic grades of graduates for the first semester of the freshman year in college, and to compare the distribution of the grades with a recognized standard. So far the study indicates that the methods used are worth while:

	A	B	C	D	E
Starch	7%	24%	38%	24%	7%
Class of 1919.....	8	39	25	23	3
Class of 1920.....	20	42	27	10	0

—Rock Hill, S. C. The superintendent of schools has recommended that the salary schedule be revised so that the maximum salary in the grades below the high school shall be not less than \$1,000 and in the high school not less than \$1,200. The superintendent pointed out that some of the best teachers had been lost to the schools because of the low salaries paid, as it had been impossible to hold teachers when other communities offered more.

—Salaries of grade principals of Butler District, Hancock County, W. Va., were increased \$15 a month and all high school and elementary teachers \$5 a month.

—School teachers of Altoona, Pa., who resign to get married or accept more lucrative offers from other districts will forfeit \$100 to the local district. The school board will require each teacher to furnish a bond of \$100 for faithful compliance with the terms of his or her contract, and they must remain on the teaching corps for the full nine months of the school year unless incapacitated through illness or other disability. Altoona employs 300 teachers.

—The students of the Maxwell Training School for Teachers, New York City, gave a performance of "Mikado" on May 26th, in the school assembly hall, for the benefit of the Maxwell Memorial Fund. The performance resulted in a goodly sum to be added to the fund to purchase a suitable memorial for the school which bears Dr. Maxwell's name.

—Worcester, Mass. The board has been unable to purchase new books, paper and other materials for the next school year due to a shortage of the supply fund. Of \$40,000 appropriated by the Mayor for the 1921 budget, only \$10,000 remains unexpended, while \$38,000 will be needed for supplies. The secretary has refused to enter into any contracts for supplies until an appropriation of at least \$30,000 is assured to cover the items.

The Schoolmaster who keeps in close touch with his teachers promotes esprit de corps.



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The proper regulation of temperature and moisture in the school room calls first for an accurate guide.

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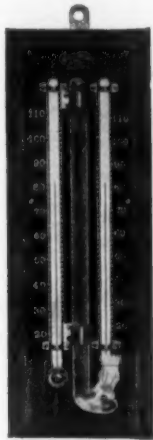
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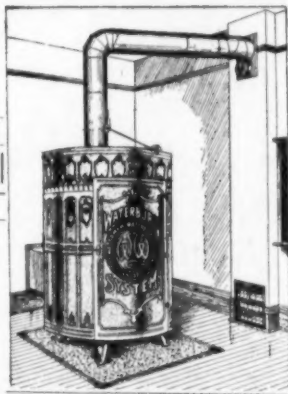


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Foul schoolroom atmosphere laden with impurities is replaced by fresh, pure, out-door air heated to a comfortable temperature with

THE WATERBURY Heating and Ventilating System

It costs less than half the price of a basement furnace. No school can afford to be without this provision for the children's comfort and health.

For both permanent and portable school houses. Saves floor space. Easy to install.

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of heating and ventilating is designed and built for rural schools exclusively.

It will withstand the rough usage given it and should last a life time.

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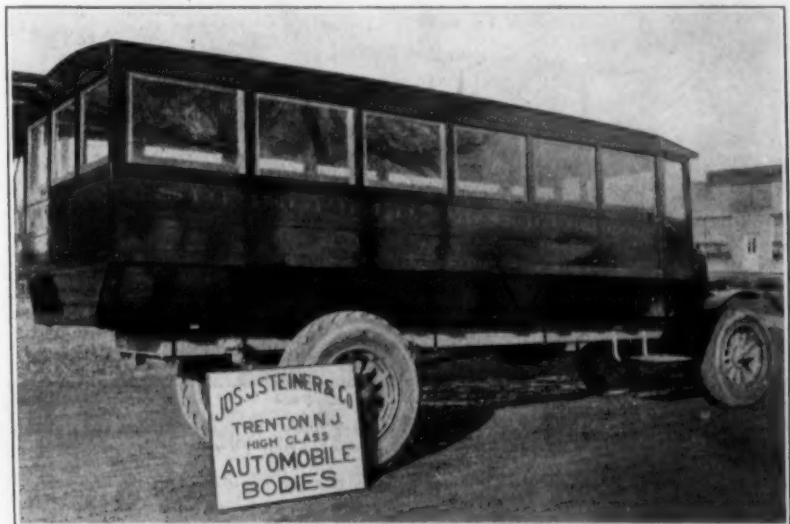
is not a stove—but a special type of heating plant which circulates warmed fresh air for the children to breathe and removes the foul air from the room. Complies with the State Laws.

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"Steinerbus" bodies are correct in design, durable in construction and are the most logical for efficient and economical transportation. They are custom made and can be built to meet every requirement. Furnished with either rear or side doors, or both, as desired.

The "Steinerbus" body illustrated, is 17 feet long and 73 inches wide, has two aisles and three long seats which can easily accommodate 45 children. The large capacity of "Steinerbus" bodies is one of their big features in addition to being well built and dependable, insuring long service.

Write us for particulars. Prompt deliveries guaranteed.

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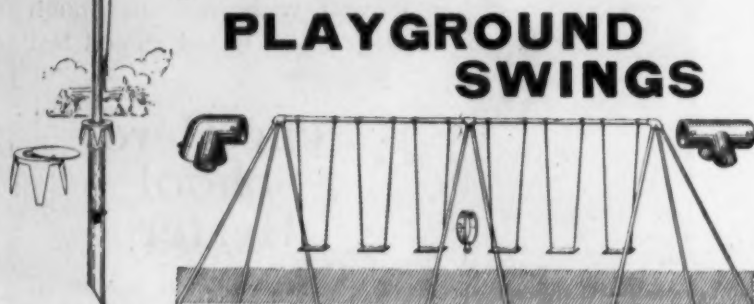
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WEST ORANGE, N. J.

The Problem of Safe and Sanitary Heating and Ventilation of School Wagons is Solved.



THE MILLER VEHICLE HEATER Does the Work

The above cut shows the Miller Vehicle Heater in use on a modern school wagon under actual winter conditions.

No stove to overturn, no gas or oil to explode, no smoke or poisonous gas to endure. Simply a hot air register in the floor flooding the whole inside of the wagon with warm, pure air drawn from outside.

Disease is now sweeping over the country endangering the lives of young and old alike. The epidemic of Spanish Influenza finds an inviting field for its deadly work in crowds, in damp, cold atmosphere, in poor ventilation.

The Miller Vehicle Heater, like mingled sunshine and fresh air, dispels dampness and disease, affords warmth and comfort, and renders safe and sanitary the journey to and from school.

Every parent has a moral right to demand and it is the sacred duty of school officers to supply Miller Vehicle Heaters for school wagons.

We manufacture and sell heaters only and sell to wagon manufacturers, dealers and school authorities.

Send for Prices.

MILLER VEHICLE HEATER CO.

Crawfordsville, Ind., U. S. A.

Common Sense in School Supervision

Charles A. Wagner
Superintendent of Schools
Chester, Pa.

Common Sense in School Supervision, by Charles A. Wagner, is a most complete and specific treatise covering the subject of school supervision in its entirety. Emphasis is laid on the words "common sense," the pivotal idea around which the entire book is built. The work is based on, and is the result of over thirty years of practical supervisory experience, including classroom experience, routine supervision, conferences of teachers and supervisors; conferences of supervisors and superintendents; public lectures and private discussions of the principles of supervision. No conflict between the point of view of the teacher and supervisor is recognized. Supervision is a very vital phase of school work and the author fearlessly approaches the problem from the angle of the supervisor and teacher alike. Every supervisory practice recommended has been tried and thoroughly tested in actual service and found productive of absolute satisfaction.

Cloth, 204 pages—Price \$1.30, net

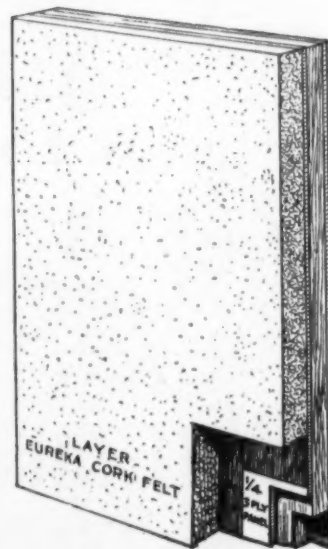
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Your Pasting Problems

THE COMMERCIAL PASTE CO.

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COLUMBUS, OHIO

Manufacturers of the largest line of Adhesives in the United States

SCHOOL REVENUES.

(Concluded from Page 41)

is no wonderful specific for the very old malady of shiftlessness in public financing and official short-comings. As with Kipling—

"The simple song I sing
Does not deal with anything
New or never said before
As it was in the beginning
Is today official sinning,
And shall be, forevermore."

We should not entirely ignore old methods until new and successful ones are established, and our steps onward in taxation reform will be beset with many delays and defeats before a permanent, high plane is reached. Summarizing briefly, these considerations are submitted:

1. Study all the present legalized sources of revenue, and through organized, effective civic channels aim for the best, broadest results under present conditions and laws.

2. Cooperate promptly and generously with all efforts of recognized national leaders, leagues and associations, who are experts drawn together by high purpose and common interests to improve and equalize taxation burdens and insure increased revenues. Use effectively their ammunition of facts and conclusions.

3. Retain all state sources now contributing and expand as soon as feasible, to a three-fold basis, of general property, personal income, and a fixed business tax, along the general lines herein suggested.

4. Provide that state funds be derived, as far as possible, from income, business, and other available indirect taxes, rather than from any additional general state-wide property tax.

5. All federal and state aid should be ap-

portioned to the local units on approved combination plans, so as to help the weak communities, offer inducements for approved special effort and service of acknowledged merit and benefit to the commonwealth.

6. Whenever possible, the entire general property tax to be devoted to the combined local taxing units, the school district as a separate, corporate entity having the same taxation basis as the territory embraced is subject to for county, city and other local purposes.

7. Meet the hindrance of inadequate revenues with a determined effort to offset it by increased efficiency of administration.

Possibly when we survey this entire question of school revenues in all its connections, we may conclude after all that instead of being a bugaboo of a crisis, it is merely a process. We

are passing through a process of adjustment, of universal financial disturbance; values and costs shifting in an uncertain manner, but generally downward and towards normalcy. Meanwhile, we are attempting to press onward and maintain our schools on the advanced standard acquired during the years of growth and expansion, and on a liberal war-time basis. Many will insist that present conditions demand strictest economy and the greatest efficiency, and that retrenchment is the necessary process, and that the way to retrench is to retrench. Hence, with such a sentiment generally dominating the public mind, and while eagerly seeking to uphold the progress of the schools, we should realize the necessity and our opportunities for accomplishing everything possible in an effective way with present resources.

On 10-10 Basis 363814 Children $\times 10 = \$3,638,140.00$

\$1,545,446.00 Income P.S.F. &c	\$2,092,600.00 State Taxes	42 2/3% Income 57 1/2% Taxes
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On 30-10 Basis 363814 Children $\times 30 = \$10,914,420.00$

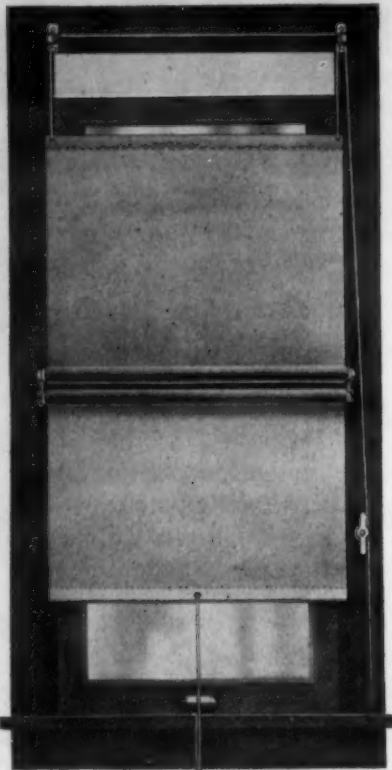
\$1,545,446.00 Income P.S.F. &c	\$9,368,974.00 State Taxes	10 1/8% Income 89 3/8% Taxes
---------------------------------------	-------------------------------	---------------------------------

Shaded section illustrating income from the state permanent school fund, which is all used under any conditions, and remains fixed. The school code provides for the levying of a statewide tax sufficient to pay a certain amount per child—at present \$20—after deducting estimated receipts or earnings of permanent fund. The first figure shows that under the \$10 per child distribution it was only necessary to raise 57 per cent of the \$10 by taxation, 42 per cent coming from the earnings of the permanent fund. On the \$20 basis, the permanent fund and its earnings remaining as before, it was necessary to more than double the amount raised by taxation, bringing the percentage gained from this source to over 78 of the total. Similarly on the proposed \$30 basis the percentage of revenue from permanent fund becomes comparatively unimportant, taxation providing nearly 90 per cent of the total.

EFFECT OF THE PROPOSED DISTRIBUTION OF SCHOOL FUNDS IN THE STATE OF WASHINGTON.

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Price is an important consideration in the purchase of window shades for the school room—but price must always be measured in terms of value. More important than price is the quality and the value which the price buys.

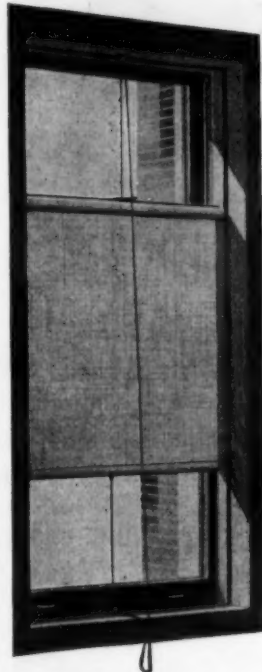
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OUR NEW SHADE FOLDER IS
NOW READY. WRITE FOR IT.

THE ORIGINAL

WALGER WINING COMPANY

GENERAL OFFICES AND FACTORY:
CHICAGO

ESTABLISHED
1905

WASTE IN EDUCATION

(Concluded from Page 35)

ble for the ignorant to remain ignorant. Our attendance officers must be more vigilant than they have been in the past. They must have a "boss." We will not long be willing to see one-fourth of our school expenditures wasted, thereby curtailing the education of our children by two years. We will not long permit children to attend school and yet allow them to do so intermittently. Our laws will be revised. It may take half a century or longer, but attendance laws based on the welfare of the child will supersede those which now look so much to the interest of the farmer, the miner, the merchant, and the manufacturer. Some day we shall reflect with disdain on our lop-sided compulsory attendance laws which were shown recently in the *SCHOOL BOARD JOURNAL*¹ to be only 54 per cent efficient as measured by fourteen standard criteria.

We can ill afford to permit absence from school in the lower grades, thereby cultivating bad habits in our boys and girls,—habits from which they may never recover and which may seriously handicap them through their subsequent school career. We can no longer "wink at the overweight" of the first grade, involving as it does four million little children who are going to school only about one-half of the year and struggling unsuccessfully year after year in trying to master the rudiments of the English language. The schools can not long continue to "assassinate" and banish by degrees 66 per cent of its children by the time they should enter high school, 85 per cent of them by the time they should complete a high school course, and 97 per cent of them by the time they should have completed a college course. The murderous

hand of education must be stayed in the execution of such direful deeds. Public education exists for all the children and it has not done its duty until it has given to every child the highest and best type of education that he is capable of receiving.

REORGANIZING FOR SEMI-ANNUAL PROMOTIONS

(Concluded from Page 42)

Table III showing percentage of pupils normal, under age, and over age in each grade before and after reorganization.

Table IV shows the location of the individual pupils in the various grades after reorganization and Fig. 2 shows the last half of Table III graphically.

The promotions in January were made, in the lower grades, in the regular way; namely on the basis of examinations by the teacher, and the teacher's judgment. In grade 1B, the upper half of the first grade, of 39 pupils, 30 were promoted, and nine failed. In the case of these nine, however, five had been absent over 60 per cent of the time. From grade 2B of 36 pupils 34 were promoted and the other two had been absent nearly 60 per cent of the time. In

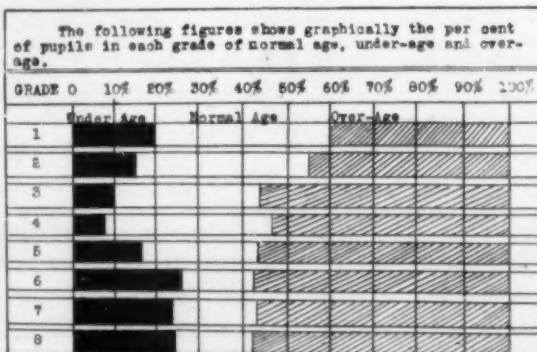


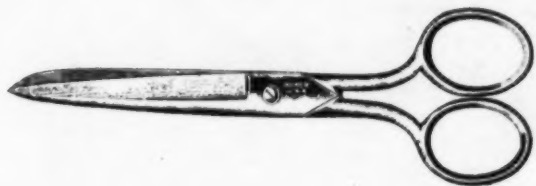
FIG. 2.

the 3B grade nineteen pupils were promoted and four failed. In grade 4B, 26 pupils out of 27 were promoted. Five B had one failure, and 6B had one. The sixth, seventh and eighth grades have Regents Preliminary examinations given by the State Department of Education, and administered in exactly the same way as the high school examinations. In these examinations nearly 90 per cent of the pupils of the 6B, 7B, and 8B grades were successful in the January examinations. A percentage which is favorable comparable to the results usually obtained in these examinations.

In addition to the examination and teacher's marks, all classes from the fourth grade up were checked up by use of standard tests. The results of these tests show that the B classes were able to do the work of the year in half time, and in some cases in less than half time. For example the Curtis arithmetic tests were given to the 6B grade about the middle of December. The class score on the addition test was 9.5 problems attempted with an accuracy of 73.6 per cent. The class was informed that it was behind standard, and a graph was made showing its position with respect to the Curtis standards. A set of Curtis drill cards was furnished and their use explained. About the middle of January the test was given to this class the second time. The class score this time was 10.38 problems attempted, with an accuracy of 82.5 per cent, an increase equal, nearly, to a year's work for this grade. The Curtis and Thorndike reading tests were given in September to the entire school. Both of these tests showed that grades up to the seventh were one or more years behind standard in reading. These tests were given again January and in each case the B classes had made at least a year's progress, and in some cases more.

¹December, 1919, page 39, February, 1920, page 41.

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A Scissor is no more reliable than the materials of which it is made, the experts employed to make it, and the organization behind its production.

Boker's Scissors are hand forged from Crucible Carbon Steel. The most exacting care is given to hardening, grinding and perfect adjustment.

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with the aid of Robertson's Quality Cleaning Products can easily keep your school in a thoroughly clean and sanitary condition at all times, at a minimum of cost and effort.

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Rolling and Disappearing Fronts; with or without teachers' closets and blackboard surfaces. In space economy, convenience and health, an absolute necessity in the modern school.

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The average class room, with its dull blackboard, lacks color stimulus,—and we know how youngsters love color instinctively.

A box of our **LECTURERS' CRAYONS**, with its bright assortment, should be part of every teacher's equipment to supplement work with white chalk on the blackboard.

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SCHOOL LAW NOTES

(Concluded from Page 78)

the board of supervisors to levy an extra tax on the part of the consolidated district formerly constituting a separate district for the benefit of one of the schools.—*Thames v. Board of Supervisors of Simpson County*, 87 So. 126, Miss.

The Illinois laws of 1915, p. 644, limiting the amount of levy and the laws of 1919, pp. 852, 856, increasing the limit, and fixing the aggregate levy for education and building purposes, did not repeal the laws for 1913, p. 585, ¶ 189, under which, by virtue of an election pursuant thereto, an additional school tax within the limitation finally fixed was to be levied annually thereafter, and hence another election to authorize the levy was not required by reason of the acts of 1919, which amended the act of 1913.—*People v. Payne*, 129 N. E. 850, Ill.

A special school tax based on certificates of levy of boards of education of community high school districts, made subsequent to the first Tuesday in August, is held void under the Illinois school law, ¶¶ 91, 190, and the revenue law, ¶ 135, though districts were organized subsequent to such date, making it impossible for school boards to make certificates before such date, and notwithstanding section 191, providing that no tax shall be considered illegal on account of irregularities or informalities not affecting the substantial justice of the tax itself.—*People v. Wabash Ry. Co.*, 129 N. E. 823, Ill.

The failure of a board of education of a community high school district to make a certificate for a levy of taxes prior to the first Tuesday in August, is held to invalidate a tax levied on such a certificate, though the district was organized subsequent to such time, notwithstanding the Illinois school law, ¶ 190, providing that the school board's failure to file the certificate in the time required shall not vitiate the assessment; such a statute not applying to time of making levy.—*People v. Wabash Ry. Co.*, 129 N. E. 826, Ill.

A petition in a suit to compel the boards of education and city council to levy taxes for the support of colored schools is demurrable, where it does not allege that the general council has

failed or refused to comply with the resolution of the board of education.—*City of Pineville v. Moore*, 227 S. W. 477, Ky.

Teachers.

That discharge of school superintendent was a breach of the superintendent's contract of employment did not justify the superintendent in refusing to surrender possession of the property and affairs of the school district to directors of the school district, his remedy being an action at law for breach of contract.—*Gardner v. Goss*, 227 S. W. 25, Ark.

Pupils.

The Tennessee public acts of 1913, c. 9, as amended by the public acts of 1919, c. 143, providing that a parent, guardian, or other person having control of a child between the "ages of 7 and 16 years, inclusive," shall cause such child to attend school, requires that a child of 16 years and 6 months be sent to school.—*Covell v. State*, 227 S. W. 41, Tenn.

A truant officer appointed by the county superintendent of schools was legally appointed as such, though the board of county commissioners had not fixed the amount of her compensation.—*Quernheim v. Asselmeier*, 129 N. E. 828, Ill.

The acts of the Iowa 38th general assembly, c. 198, forbidding the use of any but the English language, in teaching secular subjects to pupils under the eighth grade in public and private schools is held a proper and reasonable exercise of the police power of the state.—*State v. Bartels*, 181 N. W. 508, Ia.

The teaching of reading in the German language to children in a parochial school below the eighth grade by use of German textbooks of a secular rather than of a religious character is held a violation of the acts of the Iowa 38th general assembly, c. 198, ¶ 1, prohibiting the use of any but the English language in teaching secular subjects to pupils below the eighth grade in private as well as public schools, though the parents of such pupils are unable to speak English, and desired that the children be taught to read the German language in order that they may be given religious instruction at church and in the home.—*State v. Bartels*, 181, N. W. 508, Ia.

INCREASED MUNICIPAL INDEBTEDNESS

(Concluded from Page 61)

can sell at a profit the bonds purchased by him, will this advance last and present values be maintained. The question then arises what is apt to happen when the demand for municipal bonds by investors purchasing because of tax exemption will have been supplied, or will lessen.

It seems not unreasonable to expect a lessened desire or ability on the part of such investors to absorb bonds for two reasons—one—because of the amounts heretofore invested by them—the other—because of reduced income on profits by reason of business depression and reduction or suspension of dividends and failure to pay interest on bond issues, such as has happened in a number of city traction bonds and in industrial issues.

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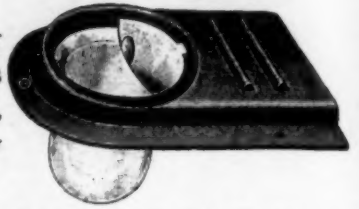
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the East to the West as far as the State of Wash-
ington—speakers laid stress on the principle that
holders of railroad bonds and, as such, trustees
of savings banks, have not alone the right but
the duty to inquire into the management of rail-
roads in whose bonds their institutions have in-
vested funds, and to take steps to safeguard these
investments when their safety appears to be in
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Heretofore bondholders have been ignored by
railroad executives—they had no voice—until the
appointment of a receiver—when with other
creditors they had to seek the protection of the
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activities of the National Association of Railroad
Security Holders—of which many of us are, and
of which all of us ought to be, members—we have
made ourselves heard. And the executives of our
railroads have heard and must heed us, whether
it be to their liking or not.

I say this, because what applies to the rail-
roads should apply with equal force to our muni-
cipalities of which the savings banks are large,
if not the largest creditors. If and when we
know of incompetence, extravagance, wasteful-
ness and corruption in the administration of our
municipalities, which result in increased bur-
dens of taxation and of bond issues, we have the
right and duty to make ourselves heard not alone
as citizens but as trustees of our institutions.

Until Mr. Warfield took the leadership on be-
half of owners of railroad securities—bondholders
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We, as bondholders, of municipalities, represent-

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lions of our depositors, can, if we choose,
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conditions in the financial affairs of our muni-
cipalities. But we must have the courage of our
conviction. Our association cannot engage, in
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positors learn of our attitude—you may rest
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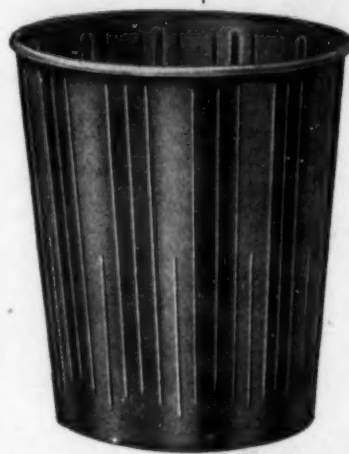
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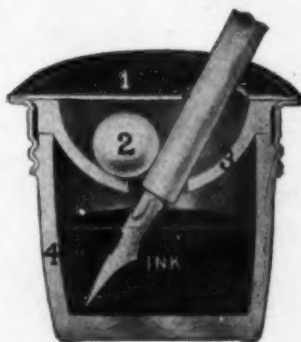
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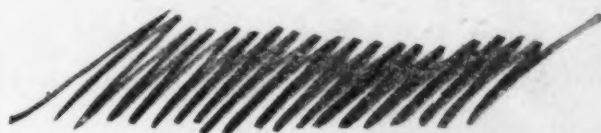
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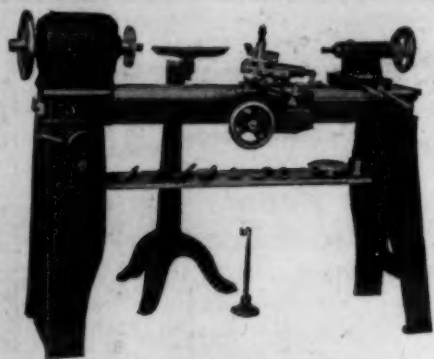
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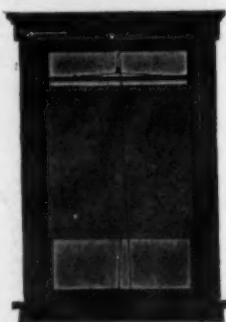
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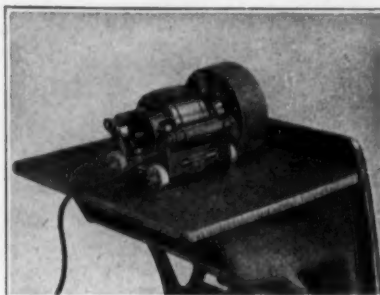
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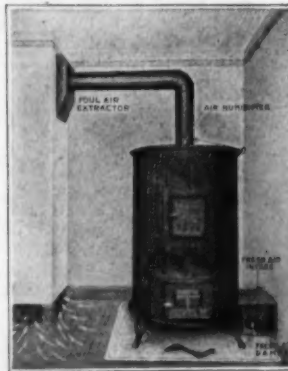
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Use The Norton Liquid Door Closer with Hold-Open Arms and do away with door stop on bottom of door.



Approved by the National Board of Fire Underwriters Laboratories

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1st. The doors are closed with a uniform speed which gives the pupils a chance to go through a door without getting caught or injured.

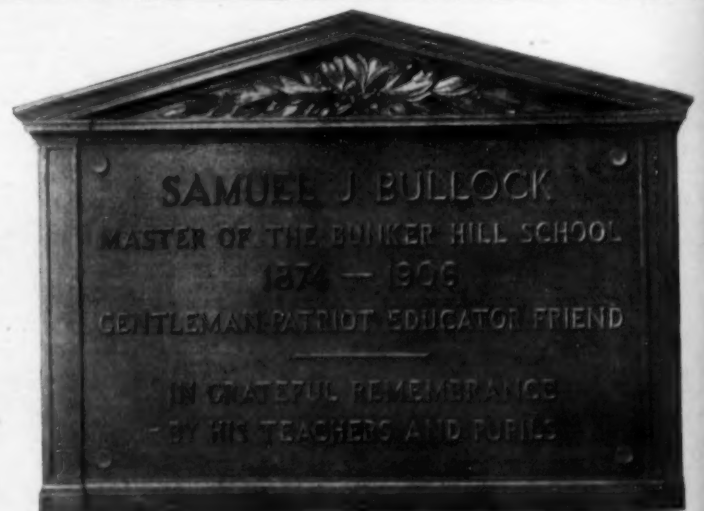
2nd. Having two speeds—the speed at the latch can be set for absolute quiet—no latch necessary.

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said Sir Thomas Lipton,
the famous yachtsman, to
our Dr. Mackenzie, and so say
we to you.

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agents of America for good
teachers and school execu-
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Albert Teachers' Agency
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who are looking for opportunities in the teaching field,
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THE first thing to do when you are going anywhere is to get a time-table. You want
to know what train will take you there and when it starts. The superintendent
in Hope, N. Dak., at \$2400 a year, wrote us Dec. 9, 1920, "I desire to locate near
enough to New York so that graduate study at Columbia will become a possi-
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need a man who can efficiently **TEACHERS'** the school and lend some aid in
direct the physical activities of modern languages. For the right
sort of a man a rather attractive salary would be offered." Our North Dakota man
fitted well, telegraphed he wanted it, and was elected. It was a good ways off,
but by registering with us he prepared himself to find out where the place he wanted
was and when to get it. An experience of 35 years bring appli-
cations from so many teachers and schools that we can provide a **TIME-TABLE**
C. W. BARDEEN, SYRACUSE, N. Y.

Teachers Wanted: For High Schools—Salaries for men from \$1500 to \$2500;
for women \$1000 to \$2200; Grade Teachers—Either Normal
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room, with every known equipment for doing efficient work, IN-
CLUDING A FINDEX BUILT TO ORDER, enables us to fill
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Free membership to teachers. Free services to school officials. We recommend only
when asked by school officials. For the protection of our members we nominate only
one candidate for a vacancy. Write or wire for a membership blank. Address

MISSOURI VALLEY TEACHERS' AGENCY
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Teachers Needed in the Southwest

High School Salaries,
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SPECIALISTS listed from every state. Every qualified teacher has the privilege of filing a record
of experience, etc., at our office, free of charge.

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AFTER THE MEETING



Not Meant That Way.

Mr. Self Pusher, the new member of the school board, visited the social center and insisted on making a long address. The young folks listened respectfully for a while, but when the address stretched out beyond thirty minutes, they became restless and noisy and cut up. Mr. Pusher found it hard to go on and when he stopped to take a drink and to wipe the perspiration from his ample bald spot, the confusion was so pronounced that he could not resume. He tried several times, and finally in great anger he belated:

"Every time I open my mouth some silly fool speaks."

And Mr. Pusher wonders why they roared so that he was obliged to give up.

The Buyers' Strike.

Teacher (in poor section of the city): Michael, why were you late this morning?

Mike: I couldn't get dressed in time. Me undershirt's so full uv holes, it took me fifteen minutes to find the one me head orte go thru.

Death in Life.

Preacher: What is eternity?
Recent Normal School Graduate: The time that elapses between filing an application for a position and receiving the school board's reply.

"One of my pupils," says a Buffalo teacher, "could not understand why I thought that the following paragraph from the composition of 'A Hunting Adventure,' lacked animation and effectiveness:

"Pursued by the relentless hunter, the panting gazelle sprang from cliff to cliff. At last she could go no further. Before her yawned the chasm, and behind her the hunter."—Argonaut.

So To Speak.

"Sedentary work," said the college lecturer, "tends to lessen the endurance."

"In other words," butted in the smart student, "the more one sits, the less one can stand."

"Exactly," retorted the lecturer, "and if one lies a great deal, one's standing is lost completely."—Pickup.

As the Teacher Saw It.

"I'm very much afraid that Jimmie isn't trying enough," wrote an anxious mother to the teacher of her young hopeful.

"You are quite wrong," wrote back the tired teacher, "for I assure you that Jimmie is the most trying boy in the class."



Physiology Class, Attention!

"I want that teacher fired," cried the irate parent of the notorious school dummy. "She changed my boy's seat."

"Let's hope she'll change his brain, too," retorted the board member.

Startling, to Say the Least.

A teacher in a North Side school declares that she received the surprise of her life the other day when she kept a little eight-year-old youngster after school.

When all the other pupils had gone she felt disposed to lecture her little charge. "Now, Eddie, you know that it hurts me more than it does you to keep you after school," she said, in a kindly tone.

And before she could go on the little boy, who was doing his best to be agreeable, said, "I know it, teacher; father always says that he hates like the devil to have to stay in the office after all the other men have gone home."—Columbus Dispatch.

The Family Skeleton.

Teacher was trying to elucidate the meaning of the word "recuperate" to one of the pupils.

"Now, Tommy," said she, "if your father worked hard all day he would be tired and worn out, wouldn't he?"

"Yes'm."

"Then when night comes and his work is over for the day, what does he do?"

"That's what mother wants to know."



ISSUE NEW CATALOG.

Leonard Peterson & Company of Chicago, Ill., have just issued a new catalog, No. 11, on laboratory furniture for chemistry, physics, biology, physiography, domestic science, domestic art, pathology, hospitals, filtration, city testing and industrial plants. They announce the opening of new show-rooms in which permanent exhibits of model laboratories are placed.

Laboratory furniture is furnished not only for educational institutions but for private experimental and clinical laboratories such as meet the needs of physicians, commercial chemists and pathologists. They also furnish equipment for hospitals, for city, state and federal inspection laboratories, filtration plants, laboratories used in connection with the control and manufacturing processes such as steel and metal, baking powder, dyes and dyestuffs, cement and the coal tar industries.

Anyone who wishes to furnish a laboratory or who is in the market for additional equipment, upon mailing a floor plan of the rooms to be furnished, together with suggestions, will receive blue prints, specifications and an estimate, without cost or obligation. Installation is made by experienced mechanics.

Death of Mr. French.

Mr. Harlan P. French who conducted a teachers' agency and published an educational magazine for many years, died at Albany, N. Y., June 4th, at the age of 78 years. Mr. French was a native of Vermont, began life as a teacher in Illinois, drifted into the school supply business, and eventually into the work which engaged his attention when he died. He was a modest and conscientious man whose dealings were highly honorable and who commanded the esteem of those he came in contact with.

Mr. Gregg to Europe.

Mr. John Robert Gregg, President of The Gregg Publishing Company and author of Gregg Shorthand, accompanied by Mrs. Gregg, sailed on the 11th of June for a three months' trip to Europe.

Mr. Gregg will be engaged in organizing commercial courses and commercial schools in connection with the spread of Gregg Shorthand in England. The English people are displaying a wonderful interest not only in Gregg Shorthand, but in American business methods. The Gregg system has already been introduced into hundreds of classes and about 1,500 teachers are now studying the system with the view to teaching it.

DEATH OF MR. HARBUTT.

Mr. William Harbutt, the originator of Harbutt's "plasticine" died in a New York hospital, on June 1st, of pneumonia, which he contracted shortly after his arrival from England. He was 77 years of age.

Mr. Harbutt who was born in England, had

been engaged all his life in teaching art until a few years ago, when he retired from the work to devote his entire time to the manufacture and sale of plasticine which he has introduced in England, India, Canada, Egypt, Australia, South Africa and the United States, and which is now used in nearly every school where manual arts is taught.

Mr. Harbutt was for a number of years headmaster in the Bath School of Art, and had taught in the Bath public schools. He was a member of the Royal College of Art. A few years ago he completed a trip around the world lecturing on plasticine. At the time of his death he was on a visit to some of his customers in the United States.

The remains were shipped to England where the funeral services took place.

NEW VICTOR RECORDS.

The Victor Talking Machine Company has announced the following new educational records: The Last Rose of Summer, played by Mischa Elman; On the Campus and Bullets and Bayonets, Marches, by John Phillip Sousa, rendered by Sousa's band. Any dealer will play the records for interested school authorities.

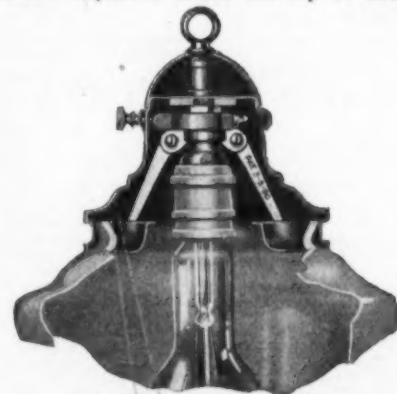
REMOVED FACTORY.

The Norton Door Closer Company has recently removed its entire plant into a new one-story factory building especially designed and erected for it. The new plant is located at 2900-2918 N. Western Avenue, Chicago, and gives the firm almost ideal manufacturing conditions. The plant is of the daylight type with especial facilities for ventilation.

NEAR-ACCIDENT IN SCHOOL RESULTS IN DEVELOPMENT OF SAFETY-BOARD HOLDER.

Some school directors were making a tour of inspection, and while assembled in one of the classrooms a large glass globe on one of the lighting units dropped without the slightest warning and came so near hitting one of the party that they, fearful of a like occurrence while children were in class, decided that some method must be provided to prevent similar accidents in the future. The result was the development of the Safety-Board Holder, which is illustrated in the accompanying view. Figure 1 is a vertical section through this patented holder, and clearly illustrates how the mechanism works. Turning the knurled screw spreads the arms and clamps the globe between the curved shoes, attached to the arms, and the inside of the holder.

The ordinary three or four screw holder provides only a few points of contact, and unless all screws are adjusted under the lip of the globe,



Safety Holder for School Lights.

the glass will not hang straight. Unequal stresses are produced by "setting-up" one screw tighter than the others, and when the bowl expands, due to the heat from the lamp, breakage results. The two curved shoes of the Safety-Board Holder extend nearly around the inner surface of the neck and provide a surface contact instead of a point contact as in the case of the ordinary screw holder. Being similar in form and of the same material as the holder, the expansion due to heating is practically the same and unequal stresses are avoided.

But there are other advantages of the Safety-Board Holder. Vibration cannot loosen the glass. When it is desired to remove the glass it is necessary to turn only one screw, and the two arms then fall by gravity—hence, taking down and replacing glassware when cleaning is very simple. Even contact and perpendicular suspension are assured, without reaching around the holder or placing one's self in a precarious position on the ladder.

School authorities desiring detailed information may make inquiries through the Beardslee Chandelier Mfg. Co., 216 S. Jefferson St. Chicago.

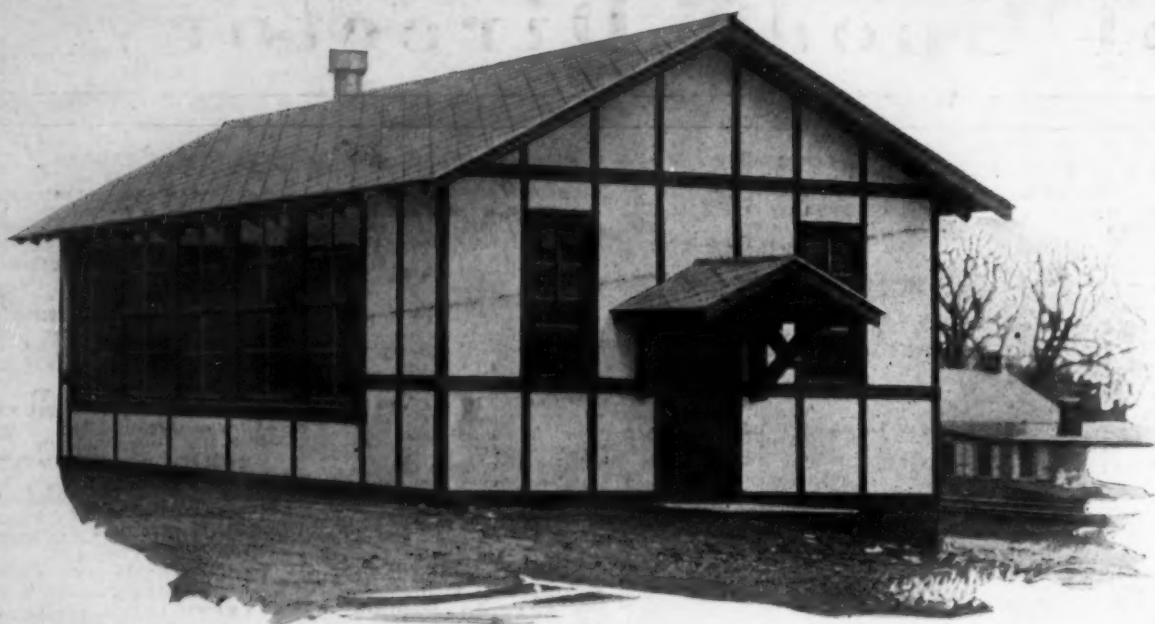
School Goods Directory

- ADJUSTABLE WINDOW SHADES**
Aeroshade Company
Draper Shade Co., L. O.
Steele Mfg. Co., Oliver C.
Walger Awning Company
- AIR CONDITIONING APPARATUS**
American Blower Co.
Ozone Pure Airfilter Company
- ASH HOISTS**
Gillis & Geoghegan
Payne Company, F. S.
- AUDITORIUM SEATING**
American Seating Co.
Empire Seating Co.
Hewwood Bros. & Wakefield Co.
Kundtz Company, The Theodor
N. J. School Furniture Co.
Peabody School Furniture Co.
- AUTO BODIES**
Steiner & Co., J. J.
Wayne Works, The
- BLACKBOARDS—COMPOSITION**
N. Y. Silicate Book Slate Co.
Rowles Co., E. W. A.
Weber Costello Co.
- BLACKBOARDS—NATURAL SLATE**
Keenan Structural Slate Co.
Natural Slate Blackboard Co.
Penna. Structural Slate Co.
- BOOKCASES**
Lundstrom Mfg. Co., C. J.
- BOOK COVERS**
Holden Patent Book Cover Co.
Peckham, Little & Co.
- BOOK LEATHER**
Kerastol Company
- BOOK PUBLISHERS**
American Book Company
Barnes Co., A. S.
Educational Publishing Co.
Ginn & Company
Gregg Publishing Co.
Heath & Co., D. C.
Houghton, Mifflin Co.
Lippincott Co., J. B.
Little, Brown & Company
The Macmillan Company
Newson & Company
Palmer Co., A. N.
Silver, Burdett & Co.
- BULLETIN BOARDS**
Kewaunee Mfg. Company
Paddock Cork Company
Weise Laboratory Furniture Co.
- BRUSHES**
Lewis, Samuel
Palmer Company, The
Robertson Products Co., Theo. B.
- BUILDING MATERIALS**
Asbestos Buildings Co.
Indiana Limestone Quarrymen's Assn.
National Terra Cotta Company
Republic Fireproofing Co.
- CAFETERIA EQUIPMENT**
Kewaunee Mfg. Company
Pick & Company, Albert
Sani Products Co., The
Weise Laboratory Furniture Co.
- CHARTS**
Nystrom & Co., A. J.
Weber Costello Company
- CHEMICALS**
Central Scientific Co.
Chicago Apparatus Co.
- CHEMICAL CLOSETS**
Chemical Toilet Corporation
- CLOCKS**
Standard Electric Time Co.
- CRAYONS**
American Crayon Co.
Rinney & Smith
Dixon Crucible Co., Joseph
National Crayon Co.
Peckham, Little & Co.
Rowles Co., E. W. A.
Weber Costello Co.
- DEAFENING QUILT**
Cabot, Inc., Samuel
- DESKS**
Imperial Desk Company
- DESK SURFACING MACHINE**
Wayvell, Chappell & Co.
- DESK RENOVATORS**
National Wood Renovating Co.
- DICTIONARY STANDS**
Union School Furnishing Co.
- DIPLOMAS**
Educational Supplies Co.
Metropolitan Supply Company
Welch Mfg. Co., W. M.
- DISINFECTANTS**
Lewis, Samuel
Palmer Company, The
Robertson Products Co., Theo. B.
- DOMESTIC SCIENCE EQUIPMENT**
Christiansen, C.
Federal Equipment Co.
Kewaunee Mfg. Company
Mutschler Brothers Company
Peterson & Co., Leonard
Pick & Co., Albert
Sheldon & Co., E. H.
Weise Laboratory Furniture Co.
- DOOR CHECKS**
Norton Door Closer Co.
Sargent & Company
- DRAFTING ROOM FURNITURE**
Christiansen, C.
- LOCKERS**
Kewaunee Mfg. Company
Sheldon & Co., E. H.
Weise Laboratory Furniture Co.
- DRAWING MATERIALS**
Devos & Reynolds Company
- DRINKING FOUNTAINS**
Ebling Sanitary Mfg. Co., D. A.
Imperial Brass Mfg. Company
Nelson Mfg. Company, N. O.
Rundie-Spence Mfg. Company
Twentieth Century Brass Works
- ERASERS**
Palmer Company, The
Rowles Company, E. W. A.
Weber Costello Co.
- ERASER CLEANERS**
National Wood Renovating Co.
Weber Costello Company
- FILING SYSTEMS**
Index Visible, Inc.
Shaw-Walker
- FIRE ESCAPES—SPIRAL**
Dow Wire & Iron Works
Standard Conveyor Company
- FIRE EXIT LATCHES**
Sargent & Company
Van Kannel Revolving Door Co.
Vonnegut Hardware Co.
- FIRE PROOF DOORS**
Dahlstrom Metallic Door Co.
- FIRST AID CABINETS**
Johnson & Johnson
- FIREPROOFING MATERIALS**
Asbestos Buildings Co.
Republic Fireproofing Co.
- FLAGS**
Annin & Company
Chicago Canvas Goods & Flag Co.
Nelson Mfg. Co., N. O.
Newark Steel Post Co.
- FLAG POLES**
Chicago Canvas Goods & Flag Co.
Nelson Mfg. Co., N. O.
Newark Steel Post Co.
- FLOORS**
Master Builders Co., The
- FLOOR CLEANING DEVICES**
Kent Vacuum Cleaner Co.
- FLOOR COVERING**
Master Builders Co., The
- FLOOR DEAFENING**
Cabot, Inc., Samuel
- FLUSH VALVES**
Haas Co., Philip
- FOLDING PARTITIONS**
Wilson Corp., Jas. G.
- FURNITURE**
American Seating Co.
Cleveland Seating Co.
Columbia School Equipment Works
Columbia School Supply Company
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Empire Seating Co.
Hewwood Bros. & Wakefield Co.
Imperial Desk Company
Inner Braced Seating Co.
Kundtz Company, The Theodor
N. J. School Furniture Co.
Peabody School Furniture Co.
Rowles Co., E. W. A.
Scientific Seating Co.
Standard School Equipment Co.
Welch Mfg. Co., W. M.
- FURNACES**
Hero Furnace Company, The
- GLOBES**
Nystrom & Co., A. J.
Weber Costello Co.
- GLUE**
Diamond Ink Co.
- GYMNASIUM APPARATUS**
Medart Mfg. Co., Fred
Narragansett Machine Company
- HEATERS**
Hero Furnace Company, The
Smith System Heating Co.
Virginia School Supply Company
Waterman-Waterbury Co., The
- HEATING SYSTEMS**
Dunham Company, C. A.
Webster & Co., Warren
- HEATING AND VENTILATING APPARATUS**
Bayley Mfg. Company
- INK**
Commercial Paste Company
Diamond Ink Co.
Rowles Co., E. W. A.
- INK WELLS**
Squires Inkwell Company
- JANITORS' SUPPLIES**
U. S. Inkwell Company
- LABORATORY SUPPLIES**
Lewis, Samuel
Palmer Company, The
Robertson Products Co., Theo. B.
KINDERGARTEN SUPPLIES
Charles Company, Theo.
- LABORATORY FURNITURE**
Columbia School Supply Co.
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Weise Laboratory Furniture Co.
- LABORATORY SUPPLIES**
Central Scientific Co.
Chicago Apparatus Co.
Rowles Company, E. W. A.
- LANTERN SLIDES**
Keystone View Company
- LIGHTING FIXTURES**
Beardslee, Chandler Mfg. Co.
- LIQUID FLOOR HARDENER**
Sonnenborn Sons, L.
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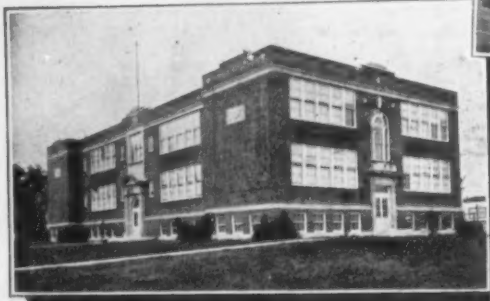
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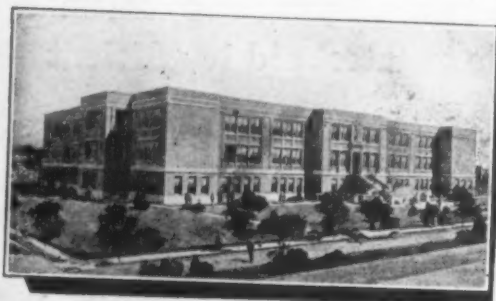
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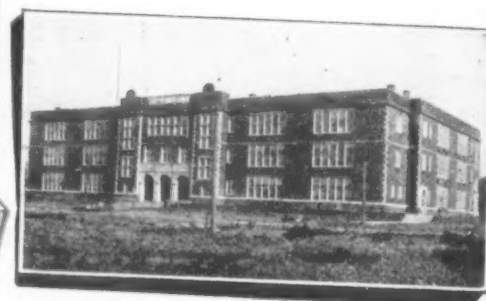
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